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FOREST PRODUCTS ANNUAL MARKET REVIEW

1995-1996

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Timber Section,
Geneva, Switzerland

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NOTE

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ABSTRACT

The *Forest Products Annual Market Review: 1995-1996* provides general and statistical information on forest products markets in the UN-ECE region of Europe, North America and the former USSR. The *Review* begins with a general overview of the forest products markets in the region. A description of the economic situation in the region is then followed by a discussion of developments in four sectors: roundwood, sawnwood, wood-based panels and paper and paperboard, woodpulp and pulpwood. For each sector, production, consumption and trade are considered and relevant material on specific markets is included. Tables included with the text present detailed information and annex tables contain further reference material.

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PREFACE

The *Forest Products Annual Market Review* provides general and statistical information on forest products markets in the UN-ECE region, including Europe, the former USSR and North America, for the period beginning 1995 to mid-1996. It is intended to serve as a background document for the annual market discussion for the ECE Timber Committee session, which will be held on 24 September 1996. Furthermore, it provides readers with comprehensive data on recent developments in the forest and forest product sector in the ECE region.

The *Review* begins with an overview of the forest products markets, followed by a general appraisal of economic conditions which have directly or indirectly influenced forest products markets in the ECE region. In-depth description is given of sectoral developments covering roundwood, sawnwood, wood-based panels, and pulpwood, pulp and paper. Production, consumption and trade are considered and additional material on specific markets is included. An additional section shows the effects of the timber markets outside the ECE region. While most tables will be found with their descriptive text, additional tables found in the annex present information on apparent consumption by product and country as well as price information.

This *Review* was compiled using data from ECE-region countries responding to FAO/ECE questionnaires and other data available until the end of May 1996. The authors express their appreciation to contributing countries which included all major ECE-region producers and traders, plus an increasing number of countries in transition to market economies, with a net response rate equivalent to last year. In light of the problems with reporting intra-European Union trade statistics, UN COMTRADE statistics or estimations of trade provided by the respondents enabled a timely estimation of the 1995 European market. Supplementary data were taken from specialized journals, industry associations and other sources where official data were lacking. When no data were available, the previous year's figure is used to calculate the regional total.

The *Review* will be complemented by the *Timber Bulletin* issue No. 6, *Forest Products Markets in 1996 and Prospects for 1997*, which will contain the results of the Timber Committee's market discussion. All statistics collected in the questionnaire are presented systematically in issue No. 2, *Forest Products Statistics, 1991-1995*. The issues of the *Timber Bulletin* for 1996 (Volume XLIX) are:

1. Forest Products Prices, 1993-1995
2. Forest Products Statistics, 1991-1995
3. Forest Products Annual Market Review, 1995-1996
4. Forest Fire Statistics, 1993-1994
5. Forest Products Trade Flow Data, 1994-1995
6. Forest Products Markets in 1996 and Prospects for 1997.

The authors would like to draw your attention to the other series of the secretariat which are listed in the back of this publication:

UN-ECE/FAO Timber and Forest Study Papers
UN-ECE/FAO Timber and Forest Discussion Papers
UN-ECE/FAO Timber and Forest Information Series
Seminar and Workshop Proceedings
UN-ECE/FAO International Forest Fire News

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Explanatory notes

"Apparent consumption" is calculated by adding a country's production to imports and subtracting exports. When data are available, the apparent consumption volume is adjusted for changes in the level of stocks.

"Net trade" is calculated as the balance of exports and imports and is shown as "+" for net exports, when exports exceed imports and is shown as "-" for net imports, when imports exceed exports. Trade data for EU countries include intra-EU trade, which is often estimated by the countries.

Insufficient data were received from all of the countries of the former Yugoslavia and the former USSR to publish complete information for these country groupings. The term "former USSR" is used in the tables for brevity when referring to the Commonwealth of Independent States (CIS) plus Estonia, Latvia and Lithuania. The term "central and eastern Europe", used exclusively for presentational convenience, includes Albania, Bulgaria, the Czech Republic, Hungary, Poland, Romania, the Slovak Republic and the former Yugoslavia. The countries of the former USSR and other countries of central and eastern Europe are referred to collectively as "countries in transition to market economies".

The term "coniferous" is used synonymously for "softwood" throughout the *Annual Market Review*. "Non-coniferous" is used synonymously for terms "hardwood" or "broadleaved" wood.

Symbols and abbreviations used

-	nil or negligible
...	not available
*	secretariat estimate or unofficial figure
$	United States dollar unless otherwise specified
£	United Kingdom's pound sterling
c.i.f.	customs + insurance + freight included
CIS	Commonwealth of Independent States
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
EU	European Union (currently 15 States)
f.a.s.	free alongside ship
FOB	free on board
GDP	gross domestic product
IMF	International Monetary Fund
m^3	cubic metre (solid volume of roundwood or processed product)
m^3EQ	cubic metres equivalent volume of wood in the rough
m.t.	metric ton
NAFTA	North American Free Trade Agreement
Prelim.	Preliminary
Q	Quarter
USDA	United States Department of Agriculture

Chapter I

OVERVIEW OF FOREST PRODUCTS MARKETS

The year 1995 was a year of contrasts in ECE region forest products markets. It started like a runaway train, but derailed at the end of 1995 after the brakes failed in mid-year. The yearly totals shown in the following analysis are averages of two very different periods within the year, and, as such, rather misleading. Sharp swings occurred between the first and the second half of 1995: record prices versus price collapse; shortages versus oversupply; stock building versus de-stocking; capacity expansion versus production limitations. However, the global process of corporate rationalization, leading to giant corporate mergers and mill closures, continued.

Following an acceleration in production and trade of forest products at the end of 1994, the year 1995 began with hopes of overcoming the weak profits from the past few years. And indeed market demand was seemingly limitless and producers of all forest products geared up to capacity. Pulp prices soared near to the magic $1000 per metric ton which had important ramifications throughout the forest and forest industry sector. Sawmills thrived in a situation where residues became more profitable than low grades of sawnwood and they chipped what might have otherwise been low valued pallet stock. Wood-based panel manufacturers found raw materials more costly as they competed with pulp makers for small-diameter logs and mill residues. Forest managers in many regions more than recovered costs from heretofore unprofitable timber stand improvement treatments, i.e., thinnings.

The behaviour of the markets in 1995 and, in particular, the speed of change of market conditions, reinforced the belief that forest products markets have become truly global, especially for commodity products like wood pulp. Some forest products markets have a balance which can be lost in the face of expanding capacity in one region or country or a downturn in demand. For example, the world's steadily increasing demand for pulp and paper was upset in 1995 when new plants came on stream to take advantage of the cheap raw material. The result was that a situation of world pulp deficits in late 1994 and early 1995, which manifested themselves in record pulp prices, was accelerated by stock building to avoid shortages and forestall higher priced purchases. As demand fell, accelerated by record high stock levels, prices fell, de-stocking occurred, and buyers became believers in just-in-time purchasing.

The situation in the coniferous sawnwood markets showed some features in common with the pulp markets. Rebounding from 1994's high demand for housing and thus sawnwood in many ECE member countries and Japan, sawmillers also boosted production in early 1995 as they too found themselves in a situation of strong demand and rising prices. What seemed so optimistic at the start of 1995, turned pessimistic with housing starts declining within the region, especially for the large markets in the United States, United Kingdom, Germany, as well as the increasingly important Japanese market. Sawmillers' associations called for production cuts to put the market back in balance and to raise prices.

In all, the year 1995 proved that forest products markets have become more global and more intricately intertwined with developments in one sector directly affecting another sector. The process of corporate restructuring and concentration continued in many countries. Despite the wide variety of end-users, the interaction of markets for pulp, paper, panels and sawnwood, through roundwood markets and the supply of residues was further demonstrated in 1995.

It is the above developments which not only present challenges for timber producers, but also for those who analyze the industry and for those people who are either directly or indirectly employed by the industry.

With a risk of oversimplifying a very complex market situation in 1995 and early 1996, this chapter presents an overview which should be considered carefully with the developments explained in the subsequent chapters.

1994 saw strong growth in construction in Europe, North America and Japan and thus demand and consumption of sawnwood and wood-based panels grew also. Similarly consumption of paper and paperboard had accelerated in 1994 and production of wood pulp and paper and paperboard grew. However, this did not continue through 1995 and apparent *consumption* of forest products as a whole (in m^3 equivalent), stagnated in Europe at the level of 1994, while consumption fell in North America and the Russian Federation (table 1).

In *Europe*, the highlight of 1995 was the increased consumption of wood-based panels especially the "new" panels, medium density fibreboard (MDF) and oriented strand board (OSB), which responded to both structural needs of 1995 construction, but even more so to non-structural needs, such as furniture, partly resulting from 1994's building peak. Coniferous sawnwood consumption fell with decreased imports and because exports remained constant, Europe became a net exporter of coniferous sawnwood.

In *North America* in 1995, housing starts fell by 7% in the United States and by 28% in Canada. This led to a 6.4 million m^3 decrease in North American sawnwood production and a fall in sawnwood prices until an equilibrium was re-established in mid-1995. Canada increased its coniferous sawnwood market share in the United States which led to renewed tensions and the "Softwood Lumber Agreement" between the governments (discussed later) which limited access to United States markets for most Canadian sawnwood. As in Europe, the wood-based panel sector succeeded in increasing consumption and trade in 1995 and is forecast to do so again in 1996 as new plants, especially for OSB, come on line, despite concerns of overproduction and falling prices. As in Europe, the repair and remodelling market remained strong with estimates of one-third of sawnwood production going into this market.

In the *Russian Federation*, 1995's total consumption of forest products decreased, but less rapidly than in the past three years. The upturn in world demand for pulp and paper was partly met through increased Russian production. Exports of roundwood increased from 1994 by 13%, of which a large part was pulpwood, and exports of pulp increased 38%. The Russian sawnwood sector continued to decrease production, as the transition period proved to be more difficult than originally imagined, and the sawnwood consumption fell to less than half of levels three years earlier.

In 1995, the value of *world* trade in forest products expanded to an estimated $123 billion, approximately 8% higher than 1994. The international market for pulp and paper was very strong in the first half of the year and it brought almost all forest products up in production and trade volumes and values. But by mid-year stocks of pulp had built up, and with sawnwood stocks equally high, a relatively small downturn in demand and some extra capacity caused prices to fall sharply. While overall the year 1995 will be known for record productions, prices and profits, the downturn at end of the year has extended into 1996 and at mid-year the markets were consolidating.

How do forest products markets influence *sustainable forest management*, and vice versa? The reductions in harvest levels, for protection of wildlife and biodiversity, which have occurred in North America, Southeast Asia and elsewhere, have had a major impact on forest products markets in the ECE region. Systems of certification of sustainable forest management are either not yet operational or do not cover sufficiently large areas to have a direct consequences now, but they are likely to have a significant influence if and when they are widely implemented. Already forest management systems are being modified to satisfy the basic requirements of future certification systems, and in almost all cases, these changes will increase roundwood costs. In years like 1995, where weak forest products markets force roundwood prices down, recovery of forest management costs becomes all the more difficult, which negatively impacts implementation of long-term plans for sustainable forest management.

The UN-ECE Timber Committee's annual market discussions in November 1995 *forecast* Europe's consumption of sawnwood to be slightly lower in 1996, by 1.2%, but a 1.4% increased consumption of wood-based panels was forecast. North America's consumption forecasts were opposite: sawnwood was forecast to increase slightly by 0.7% and panels were forecast to fall by 1.1%. Sawnwood consumption in the Russian Federation was forecast to increase in 1996 by 6.1% and panel consumption was forecast to increase by 14.4%.

Table 1
Apparent consumption of sawnwood, wood-based panels and paper and paperboard in Europe, the Russian Federation and North America, 1992 to 1995

	Million units	Volume				Change 1994 to 1995	
		1992	1993	1994	1995 (prelim.)	Volume	Percent
							(%)
EUROPE							
Sawnwood	m3	90.17	86.22	93.13	91.18	-1.95	-2.1
Wood-based panels	m3	39.29	39.61	40.91	42.25	1.34	3.3
Paper and paperboard	m.t.	67.70	68.69	72.79	73.10	0.31	0.4
Total	m3 EQ a/	441.83	439.14	466.59	466.71	0.12	0.0
Change on previous year							
- Volume			-2.69	27.45			
- Percent			-0.6	6.3			
RUSSIAN FEDERATION							
Sawnwood b/	m3	47.37	34.41	25.37	22.29	-3.08	-12.1
Wood-based panels c/	m3	7.10	5.58	3.63	3.04	-0.59	-16.3
Paper and paperboard	m.t.	5.55	3.27	2.53	3.39	0.86	34.0
Total	m3 EQ a/	108.43	76.64	56.11	53.06	-3.05	-5.4
Change on previous year							
- Volume			-31.79	-20.53			
- Percent			-29.3	-26.8			
NORTH AMERICA							
Sawnwood b/	m3	149.24	141.46	158.61	152.76	-5.85	-3.7
Wood-based panels c/	m3	41.13	42.62	44.14	45.26	1.12	2.5
Paper and paperboard	m.t.	84.40	87.55	100.06	100.36	0.30	0.3
Total	m3 EQ a/	608.65	608.53	681.96	674.81	-7.15	-1.0
Change on previous year							
- Volume			-0.12	73.43			
- Percent			-0.0	12.1			

a/ Equivalent volume of wood in the rough.
b/ Excluding sleepers.
c/ Excluding veneer sheets.

Chapter II

ECONOMIC SITUATION OF EUROPE AND NORTH AMERICA IN 1995 AND EARLY 1996

A. North America and western Europe

(i) Course of economic growth in 1995 and 1995

In spring 1995, it was widely believed that the possibilities for sustained and balanced growth in *western Europe* were better than at any time since the 1960s. However, even as this favourable outlook was being formulated in the forecasts and governments' budget plans for 1995, the recovery in the west European economies was beginning to falter. The average quarterly rate of GDP growth has been decelerating since mid-1994 and the preliminary statistics actually show a slight fall in output in the last quarter of 1995. Among the four major economies, this was the case for France, Germany and Italy. In the United Kingdom, the anticipated cyclical downswing was more pronounced than expected and economic growth has remained subdued since the second quarter of 1995. Some of the smaller economies – Belgium and Switzerland – actually moved into recession (defined as two consecutive quarters of negative growth) in 1995 and this could also be the case, at least technically, for France and Germany in the first quarter of 1996 (although bad weather has played an important role in the latter two). This sharp deceleration in late 1995 is not apparent from the annual averages which show GDP growth increasing from 2.5% in 1994 to 2.7% in 1995.

A conspicuous feature in 1995 was the above average growth in those countries which benefited from sizeable gains in price competitiveness due to the real depreciation of their currencies since 1992, although this stimulus has now weakened (Finland, Italy, Spain and Sweden) (graph 1).

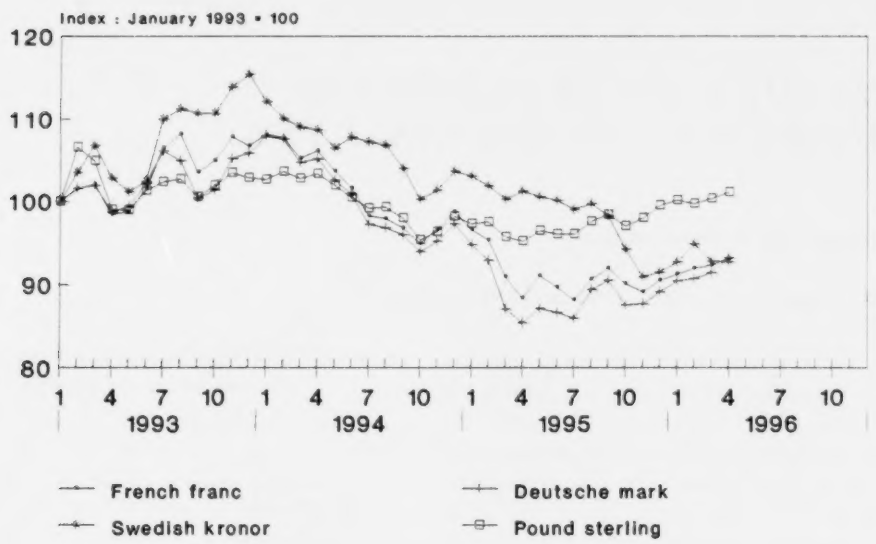
In the *United States*, economic activity nearly stagnated in the first two quarters of 1995. A rebound in the third quarter of 1995 proved to be short-lived and was followed by a renewed weakening of economic growth in the final quarter. There was also a pronounced cyclical downswing in *Canada*, which to a large degree reflects its close economic links with the

Real GDP in western Europe and North America, 1993-1996
(Percentage change over previous year)

	1993	1994	1995	1996[a]
Western Europe	-0.1	2.5	2.7	1.5
4 major countries	-0.5	2.9	2.4	1.5
France	-1.5	2.9	2.4	1.5
Germany	-1.2	2.9	1.9	1.0
Italy	-1.2	2.2	3.0	2.0
United Kingdom	2.3	3.8	2.4	2.0
17 smaller countries	0.6	1.5	3.2	2.0
Austria	0.4	3.0	2.1	1.0
Belgium	-1.6	2.2	1.9	1.5
Cyprus	1.8	5.8	4.8	3.5
Denmark	1.5	4.4	3.1	2.0
Finland	-1.2	4.4	4.2	3.5
Greece	-0.5	1.0	1.9	2.5
Iceland	1.1	2.8	2.9	2.5
Ireland	4.0	7.5	7.3	5.5
Luxembourg	-	3.3	3.2	3.0
Malta	4.5	5.0	6.7	5.0
Netherlands	0.2	2.7	2.4	2.0
Norway	2.1	5.7	3.7	3.5
Portugal	-1.2	0.9	2.6	2.5
Spain	-1.2	2.1	3.0	2.5
Sweden	-2.2	2.6	3.0	1.0
Switzerland	-0.8	1.2	0.7	-
Turkey	8.0	-5.5	6.8	2.5
North America	2.2	3.5	2.1	2.0
Canada	2.2	4.6	2.2	2.5
United States	2.2	3.5	2.1	2.0
Total above	1.0	3.0	2.4	2.0
Memorandum item:				
Japan	-0.2	0.5	0.9	2.0
Total above, *including Japan*	0.8	2.6	2.1	2.0

Source: National statistics: UN/ECE secretariat estimates.
[a] Forecasts rounded to the nearest 0.5 percentage point.

Graph 1
Exchange rates of selected currencies against the United States dollar



United States. In *Japan*, the conditions for a sustained recovery were not yet in place in 1995 and, overall, economic activity was very sluggish for most of the year. But there are indications that economic growth picked up somewhat in the final quarter of 1995.

(ii) Factors underlying growth

A number of factors have influenced economic growth (or lack of growth) in western Europe and North America. In general, *consumer confidence* has remained fairly weak throughout the recovery which began in the second half of 1993. This reflected fairly bleak prospects in the labour markets and uncertainty about future incomes. In this environment, the lagged effects on western Europe of rising interest rates in the United States during 1994 had a significant impact on consumer spending on durable goods; this was reinforced in early 1995, despite the general easing of monetary policy, by increases in short-term interest rates in several countries as a result of turmoil in the foreign exchange markets.

Private consumption has also been weighed down by a number of other factors: higher taxes and social security charges, as well as reductions in government transfers, have dampened the growth of disposable income; and in some countries the weakness of the housing market and the persistence of negative equity in privately owned houses, as well as the continued reduction of earlier levels of indebtedness, have also discouraged spending. Private consumption grew on average by only 2% in 1995 compared with annual rates of well over 3% between 1986 and 1990.

Government spending also added little to growth as governments increased their efforts to lower general government deficits in time to meet the Maastricht criteria for convergence by the end of 1997.

Hopes that the recovery of *fixed investment* in 1994 would continue in 1995 have been partly disappointed. The weakening of demand led to a steady cutting back of investment plans, but fixed investment still rose on average by some 4% compared with 1.6% in 1994. A somewhat disturbing development, however, is that, in general, investment has been focused not on the expansion of productive capacity, which would improve the medium-term outlook for employment growth, but on cost reduction and the modernization of the capital stock.

Stocks were built up rapidly in 1994 in anticipation of a sustained recovery of demand, but throughout 1995 further additions to stocks became steadily smaller in response to weak sales and, in some countries, high real interest rates. Stock changes also played an important role for forest products markets as is shown below.

Domestic activity in western Europe continued to be supported by *export* growth in 1995 although the net effect was smaller than in 1994 because of a slow-down in intra-west European trade. Nevertheless, the

region has continued to benefit from the strong global demand for investment goods and from the rapid growth of imports into the transition economies, most of which originate in western Europe, and the developing countries.

Viewed from the *supply side*, the cyclical slow-down in the western market economies reflects in the main a weakening of economic growth in the goods producing sectors of the economy, notably manufacturing industry. Construction activity remained relatively sluggish in many countries, reflecting, *inter alia*, prevailing structural imbalances in the market for residential and non-residential buildings and the focus of business investment on rationalization rather than expansion of capacity.

In western Europe, *residential investment* (the main determinant of demand for sawnwood and panels) rose, in general, only moderately in 1995, reflecting in the main a combination of deteriorating prospects for a satisfactory rate of return and the curbing or phasing out of government subsidy schemes. In the United States, against a background of falling long-term interest rates, residential investment picked up again in the third quarter of 1995 after falling consecutively in the four preceding quarters. But for the year as whole there was a decline of about 2.5% compared with 1994.

Foreign exchange markets

A major feature of developments in the foreign exchange markets in 1995 was the sharp depreciation of the dollar in the early months of the year. It fell to historic lows against the deutsche mark and the yen in March/April 1995, because of concerns about the trade deficit after the peso crisis in Mexico, and about falls in interest rates. But the decline of the dollar petered out in the second quarter and was followed by a marked rally against both the deutsche mark and the yen in the third quarter of 1995, temporarily supported by a renewed bout of concerted intervention by the central banks of several countries. The dollar gained further ground against the deutsche mark and the yen in the final quarter of 1995. In this process, the earlier strong appreciation of the yen against the dollar between the end of 1994 and spring 1995 was fully reversed. In contrast, the sizeable depreciation of the dollar against the deutsche mark until April 1995 was only partly reversed later on.

Labour markets

There was a small increase (0.6%) in the level of *west European employment* in 1995 after it fell by nearly 3½% between 1991 and 1994. But the improvement was slight, largely concentrated in the smaller economies, and seems to have slowed in the second half of the year. The weaker rate of job creation in western Europe contrasts sharply with the much more buoyant expansion in *North America* (increases of 3% and nearly 2% in 1994 and 1995).

The *unemployment* rate in *western Europe* in 1995 averaged 10.5%, slightly below its peak of 10.9% in 1994 but still above the recession year of 1993. In several countries, the rate would have been higher without early retirement schemes and other measures designed to encourage withdrawals from the labour force. In the *United States*, the unemployment rate has been fairly stable at about 5.6% since late 1994, but this is still below the rate of 6% which has long been held to be the minimum consistent with non-accelerating inflation.

Outlook

The short-run economic outlook for *western Europe* is not very encouraging. Since the autumn of 1995, forecasts for GDP growth have been steadily lowered and business and consumer confidence have continued to fall, while current indicators such as order books, stocks and output expectations suggest little, if any, growth in the first quarter of 1996. Weaker growth – or even falling output – in France and Germany is bound to affect the other European economies because of their close integration. It now seems probable that economic growth will slow down in virtually every economy and, at best, west European GDP could rise by 1.5% in 1996. This compares with actual growth of 2.7% in 1995 and forecasts last autumn of a roughly similar rate for 1996. In *North America*, real GDP growth is expected to be little changed from last year (around 2%), while a long-awaited recovery in *Japan* is forecast to materialize, with an increase in GDP of 2%.

Expectations of a better outcome in western Europe are now focused on the likelihood of an acceleration in the growth of output in the second half of the year. The reasons for expecting such a rebound include the end of the stock adjustment process and the delayed response of consumer spending to lower interest rates. However, if GDP levels remain more or less unchanged in the first half of the year, an annual rate of over 4% would be needed in the second half to produce a growth rate of 1.5% for 1996 as a whole. Such an acceleration is not very likely, which means that if activity fails to pick up *before* mid-year, even the 1.5% may prove to be optimistic.

B. Eastern Europe, the Baltic states and the CIS

(i) Broad economic performance

Economic performance in the countries of eastern Europe, the Baltic area and the CIS in the past year has varied widely and the differences among them are becoming increasingly marked (table 2). In *eastern Europe*, there is a core group of economies, mainly the members of the Central European Free Trade Agreement (CEFTA) (Czech Republic, Hungary, Poland, Slovakia and, from the beginning of January 1996, Slovenia), which have made considerable progress in the transition from central planning to a market economy and, have achieved GDP growth rates of 5 to 7% in the last year (two years in Poland and Slovenia) except Hungary which only achieved 2%. Among the other east European countries, Albania has been growing rapidly, and Romania's GDP growth improved sharply in 1995, bringing it into the range of the CEFTA group. There has also been some recovery of GDP growth in Yugoslavia following the success of the February 1994 programme to end hyperinflation. But performance has been much weaker in Bulgaria. In Croatia and the Former Yugoslav Republic of Macedonia (and, almost certainly, Bosnia and Herzegovina, for which no data are available), GDP continued to fall. Thus, within eastern Europe it is largely the more developed CEFTA countries which are pulling ahead of the economies of south-eastern Europe.

The performance of the *Baltic states* still lags behind that of most of eastern Europe, a reflection of their later start in the process of systemic transformation and the more difficult conditions in which they began their reforms, not the least of which have been the problems of adjusting their economic relations with the countries of the CIS. Nevertheless, a modest recovery is now under way in Lithuania (since 1994) and in Estonia (since last year); but in Latvia there was a further setback in 1995 (GDP appears to have fallen), partly because of a major crisis in the banking sector.

The *members of the CIS* displayed considerable variation in performance in 1995, with GDP increasing in Armenia and Georgia (by 5.2 and 2.4%, respectively) but continuing to fall elsewhere, by as much as 12% or more in Azerbaijan, Tajikistan and Ukraine. But for most CIS members the drop in output was much smaller than in 1994. This was most conspicuous in Russia, the dominant economy in the CIS, where GDP fell by some 4% in 1995, compared to a decline of nearly 13% in 1994. In aggregate, GDP in the CIS probably fell by some 5% in 1995 compared with 15% the year before.

Factors underlying growth

The recovery in eastern Europe has been based to a very large extent on the *revival of industry*. Although the development of the services sector is one of the most important and conspicuous aspects of the transition process, its weight in the economies of eastern Europe is still relatively small. Industry, on the other hand, was excessively large in the eastern economies before 1989, and although parts of the capital stock may be economically redundant, industry still had the capacity to recover sooner and more quickly than other sectors.

The recovery of east European industry has been accompanied by large annual gains in *productivity* (10 to 16% in many cases in 1995). These partly reflect the usual increases which occur when spare capacity is brought back into use in response to a recovery of aggregate demand. But for these economies this also signals that part of the existing capital stock still has economic potential and that enterprises are responding to market incentives to exploit it. Productivity gains are also due to general improvements in efficiency resulting from the restructuring of output, the shedding of redundant labour, and the adoption of new production methods, often in conjunction with investment in new and more up-to-date machinery and equipment.

It appears that *domestic demand* was the driving force behind the growth of output in eastern Europe last year – and behind the continuing fall in Russia and the other CIS countries. *Private consumption*, supported by rising real incomes, has been picking up in a number of countries (Czech Republic, Poland, Romania, Slovakia), especially those where productivity growth has been relatively high. But austerity programmes and incomes policies have held consumption back in Bulgaria and Hungary. In Russia, however, falling real wages are the major factor behind falling private consumption (-7% in 1995).

It also appears that *fixed investment* is now playing an increasingly important role in the economic recovery of eastern Europe. This is especially so in those countries where most progress has been made towards restoring macroeconomic stability, implementing institutional reforms, and, more generally, providing investors with greater confidence of economic and political stability. Fixed investment last year rose by some 13% in Romania, 15% in the Czech

Table 2
Economic activitiy in the European transition countries, 1992-1996

(Percentage change over same period of preceding year)

	GDP or NMP[a]					Gross industrial output				
	1992	1993	1994	1995	1996 *Forecast*	1992	1993	1994	1995	1996 *Forecast*
Alabnia	-9.7	10.9	7.4	13.4	..	-60.0	-10.0	-18.6	-7.2	..
Bosnia and Herzegovina	..	..	..	..	..	..	..	..	..	..
Bulgaria	-7.3	-1.5	1.8	2.5	3	-15.9	-10.9	8.5	4.6[b]	..
Croatia	-9.7	-3.7	0.8	-1.5	6-8	-14.6	-5.9	-2.7	0.3	..
Czech Republic	-6.4	-0.9	2.6	5.2	4.8	-7.9	-5.3	2.3	9.2	..
Hungary	-3.0	-0.8	2.9	2.0	2	-9.7	4.0	9.6	5.0	..
Poland	2.6	3.8	5.2	7.0	5-6	3.9	6.4	11.9	10.4	8.5
Romania	-8.8	1.5	3.9	6.9	4.5	-21.9	1.3	3.3	9.4	4.7
Slovakia	-7.0	-4.1	4.8	7.4	5-6	-14.1	-10.6	6.4	8.4	..
Slovenia	-5.4	1.3	5.3	4.8	5.0	-13.2	-2.8	6.4	2.0	5.1
The FYR of Macedonia[c]	-13.4	-14.1	-8.2	-3.0	2	-15.6	-13.8	-10.7	-9.9	..
Yugoslavia[c]	-26.2	-27.7	6.5	6.0	12.5	-21.4	-37.3	1.2	3.8	..
Eastern Europe	-5.7	-1.6	4.0	5.4	5-6	-10.2	-3.5	6.2	7.3	..
CETE-4	-0.9	1.5	4.3	5.9	..	-2.1	1.9	9.0	9.2	..
SETE-8	-12.2	-5.8	3.6	4.8	..	-20.0	-10.6	2.7	4.9	..
Armenia	-52.3	-14.6	5.5	5.2[d]	..	-48.2	-10.3	6.9	2.4	..
Azerbaijan	-22.6	-23.1	-21.9	-17.2	..	-23.7	-7.0	-22.7	-21.4	..
Belarus	-9.6	-10.6	-15.8	-10	..	-9.4	-7.4	-17.1	-11.5	..
Georgia	-40.3	-39.4	-30	2.4*	..	-45.8	-26.6	-39.7	-9.8	..
Kazakhstan	-13.0	-12.9	-25.5	-8.9	..	-13.8	-14.8	-28.1	-7.9	..
Kyrgyzstan	-13.9	-15.5	-20.1	-6.2	..	-26.4	-25.3	-28.0	-12.5	..
Rep. of Moldova	-29.1	-1.2	-31.2	-3	7.7	-27.1	0.3	-27.7	-6.0	..
Russian Federation	-14.5	-8.7	-12.6	-4	-/-3	-18.0	-14.1	-20.9	-3	-/-3
Tajikistan	-31.0[e]	-17.3	-12.7	-12.4	..	-24.2	-7.8	-30.8	-5.1	
Turkmenistan[e]	35.7	10.0	-18	-7.5[d]	..	-14.9	4.0	-25.0	-6.9	..
Ukraine	-13.7	-14.1	-23	-12	-0.5	-6.4	-8.0	-27.3	-11.5	..
Uzbekistan	-11.1	-2.4	-3.5	-1*	..	-6.7	3.6	1.6	0.2	..
CIS	-14.8	-10.1	-14.9	-5	..	-18	-12	-23	-6	..
Estonia	-14.1	-8.6	-2.7	2.5*	..	-38.9	-29.1	-5.3	1.4	..
Latvia	-34.9	-14.9	0.6	-1.6	0-3	-34.6	-32.3	-6.8	-6.5	..
Lithuania	-39.3	-30.4	1.0	2-2.5*	4.2	-30.0	-34.5	-28.0	6.2	8.7
Baltic States	-32.5	-20.6	0.1	1.0*	..	-33.4	-32.6	-16.3	1.0	..
Total transition economies	-12.6	-7.9	-9.2	-2.3	..	-14.9	-10.5	-15.1	-2.3	..
Ex-GDR länder	7.8	7.2	8.5	6.3	5.0	-6.1	6.0	13.9	7.1	..

Source: National statistics and direct communications from national statistical offices to UN/ECE secretariat; non-governmental forecasts. Aggregates for eatern Europe, the Baltic states and total transition countries are UN/ECE secretariat computations based on 1992 weights and some estimates for missing components. Forecasts for 1996 are forecasts of national conjunctural institutes or, if these are not available, government forecasts associated with the budget formulation..

Note: Aggregates are: *Eastern Europe* (the 12 countries above that line), with sub-aggregates *CETE-4* ("central European transition economies": Czech Republic, Hungary, Poland, Slovakia) and *SETE-8* ("south European transition economies": Albania, Bulgaria, Romania, and the five Yugoslav successor states); *CIS* (12 member countries of the Commonwealth of Independent States); *Baltic states* (Estonia, Latvia, Lithuania), and *total transition countries*.

[a] Gross domestic product unless otherwise noted.

[b] Industrial output, January-December 1995 in Bulgaria includes estimates for the private sector, whereas the other quarterly figures cover state and cooperative enterprises only (full-year growth 1.9 per cent).

[c] Gross material product (value added of the material sphere including depreciation).

[d] January-September.

[e] Net material product (produced).

Republic, 19% in Poland and 22% in Slovakia. It probably rose in double digits in Slovenia as well. In contrast with eastern Europe, the recovery of fixed investment in the Baltic states is still weak and hesitant, while in Russia capital formation has continued to fall.

Prices

Another important development in the transition economies in 1995 was a sharp decline in rates of *inflation*, and in many cases by much more than was expected a year ago. In at least 5 of the 11 east European countries for which price data are available, the year-on-year rate of increase in consumer prices in late 1995 was in single digits. There was also a marked fall in the rate of inflation in Russia and the other CIS countries in 1995. But despite the fall in rates of inflation – Tajikistan and Yugoslavia were the only countries to go against this general movement – the actual rates still remain very high, especially in the CIS countries but also in some of the east European countries.

Labour markets

The strong growth of output in eastern Europe has led to a marked slow-down in the fall of *employment* levels, and in a few countries (Albania, Bulgaria, Czech Republic and Poland in 1994; Slovakia in 1995) they have started to increase. Most of the new jobs are in the private sector, particularly in services, and there are a few signs, in Poland for example, that new jobs created in the private sector may be starting to exceed the number lost in the public sector. In the Baltic states, employment has continued to fall although less rapidly than in 1994. In Russia and the other CIS countries, employment has continued to fall and unemployment to rise. In general, there can be little doubt that unemployment is now a major and growing problem in nearly all the transition economies.

Trade and capital flows

The foreign trade of the transition economies continued to expand rapidly in the first three quarters of 1995, in both value and volume. In eastern Europe and the Baltic states, imports outstripped exports as a result of the recovery of domestic demand and there was a sharp deterioration in their trade deficits – from $7 billion to $13 billion in eastern Europe and from $0.6 billion to $0.9 billion for the Baltic states. In contrast, both the value and volume of exports from Russia and the other CIS countries grew much faster than their imports and their trade surpluses increased considerably – from nearly $15 billion to $22 billion for Russia and from $1.5 billion to $3.5 billion for the other CIS countries.

The larger volumes of trade have had dynamic effects on productive efficiency via an improved division of labour resulting from the extension of export markets and the enhancement of production technology through imports of capital goods.

In a few transition countries forest products play an important role in the structure of exports. In 1994 (the most recent year for which these data are available), "Cork and wood" was one of the five most important commodity groups in exports for Latvia and Lithuania, and "Furniture and parts thereof" was in the top five for Poland and Romania. In 1995, "Wood and articles thereof, cellulose" accounted for 6.2% of Russia's non-CIS exports.

Western Europe is now the major trading partner of most of the transition economies, taking some 50-70% of their exports and accounting for a similar proportion of imports. But a more recent development has been the strengthening of trade amongst the transition economies themselves, with the notable exception of intra-CIS trade the volume of which has probably continued to fall.

A remarkable feature of developments in 1995 was a tripling of net capital flows into eastern Europe, from $10.6 billion in 1994 to just over $31 billion. However, most of the funds (nearly 90 per cent) went to just three countries, namely, the Czech Republic, Hungary and Poland; as most of the funds were private capital, this distribution seems to confirm the view that foreign investors are attracted to economies when reforms and stabilization policies are in place and credible, and when the prospects for growth seem reasonably firm.

Outlook

The outlook for the transition economies in 1996 is as always subject to many uncertainties, but official expectations, largely formulated before the extent of the slow-down in western Europe became clear, point to a further strengthening of the recovery in *eastern Europe* to perhaps an average growth rate of some 6% in GDP. Within this aggregate there is some slow-down in those countries with the highest growth rates in 1995 – Czech Republic, Poland, Romania and Slovakia – but except in Romania this is fairly marginal with growth rates remaining in the 5-6% range. However, in the lagging countries in 1995, governments expect growth to pick up, particularly in Croatia, the Former Yugoslav

Republic of Macedonia and Yugoslavia. All countries in the region of south-eastern Europe should gain from the suspension of sanctions against Yugoslavia and the improved outlook for security in the area.

Apart from the uncertainties of the reform process itself, an important element of risk in the outlook for 1996 derives from the increasing ties between the eastern and western parts of Europe. Eastern Europe is now very dependent on western Europe as an export market and is therefore more vulnerable to a slow-down in west European import demand (this also applies increasingly to forest products exports from a number of eastern European and Baltic countries). The high growth countries in 1995 were generally those which have been most successful in raising the share of their exports going to western Europe; the slow-down in their growth rates in 1996 may therefore be greater than currently expected.

Similar considerations apply to the *Baltic states*, where output is expected to grow in 1996 but much less strongly than in the rest of eastern Europe. The Baltic states' exports to western Europe have been growing rapidly and now account for probably some 50% of the total Baltic exports. They too will be vulnerable to a more severe slow-down in western Europe.

The outlook for *Russia and the other CIS countries* still remains very uncertain. Considerable progress was made in 1995 with stabilizing the Russian economy and the increasing optimism about the possibility of a return to growth in 1996 seemed to be supported by a recovery of industrial output in the summer and early autumn. But this improvement was checked towards the end of the year and the decline has resumed in the early months of 1996. Nevertheless, the Russian authorities have reached an agreement with the IMF on a Medium-Term Strategy and on economic policies for 1996, which projects growth rate for 1996 of 2.3%. However, none of the variant forecasts made by the Ministry of the Economy, published in January, show positive GDP growth in 1996.

C. Developments for construction

Construction, including renovation and maintenance, along with the closely related furniture sector, is by far the largest market sector for sawnwood and wood based panels. Available data on these end use sectors are presented below, as background to the discussion of forest products markets below.

(i) European construction [1]

In 1995, the volume of building construction in western Europe increased by 1.6%, considerably slower than in 1994 (+2.8%) (table 3). Growth of 1.2% is expected (by EUROCONSTRUCT) for 1996.

Table 3
Total construction in western Europe, 1991-1996
(Percentage change over previous year)

	1991	1992	1993	1994	1995	1996
Belgium	+3.1	+5.4	-1.7	-1.1	+1.5	+1.9
Denmark	-12.2	-0.5	-6.8	+0.7	+3.3	+4.8
Finland	-11.2	-17.9	-14.6	-3.8	+.9	+6.9
France	+1.2	-2.2	-5.4	-5.6	+0.3	+0.4
Germany	+3.4	+9.6	+2.7	+8.1	+0.1	-1.3
Ireland	+0.6	+2.4	+5.3	-9.1	-9.1	-7.4
Italy	+1.6	-2.1	-6.3	-5.3	+1.5	+3.9
Netherlands	+1.0	+0.7	-2.0	+3.9	+2.8	+1.5
Norway	-7.0	-3.8	-2.6	+7.7	+9.8	+3.9
Sweden	-7.0	-7.3	-9.2	-5.4	+3.7	+0.8
United Kingdom	-6.8	-4.0	-2.0	+3.2	-1.0	-0.9
Total	-0.1	+2.0	-1.9	+2.3	+0.7	...

Source: Cinet. 1995 data are estimates and 1996 figures are forecasts.

A fundamental influence was the change situation in in Germany, which accounts for nearly 30% of construction in western Europe. Over the past few years, it has been the German construction sector which has set the pace for the rest of Europe but in 1995, growth of the German construction sector slowed from nearly 8% to just under 2%. A decline in real terms is expected for German construction in 1996.

For western Europe, the slowdown in the economy as a whole is only one major influence: the measures to satisfy the Maastricht criteria in the field of public expenditure will reduce public support of housebuilding and limit availability of funds for public investment. These measures are having a disproportionate effect on new residential investment and on public building.

New residential construction, which had expanded rapidly in 1994, especially in Germany, as well as Austria, the Netherlands and Norway, decelerated in 1995: a decline is forecast for Germany and for other countries in 1996/97. The demand for new buildings has been well satisfied by the high level of activity in recent years. Other factors include reduction or abolition of subsidies, and lack of confidence in future employment and salary prospects in many countries.

Non-residential construction, which had slumped in the early 1990s, partly as a consequence of the office boom of the late 1980s, started to recover in 1995 and is expected to be the driving force of the construction sector in the next two years, although the growth rates of the 1980s are not expected to be repeated. The reasons for this are the satisfactory profit situation of any companies after rationalization during the recession and low interest rates.

The stagnation evident for public building over the past two years is expected to continue in 1996/97. Only in Ireland and Portugal, which receive considerable subsidies from EU structural funds, is some expansion of public building expected. Civil engineering prospects have brightened slightly because of the involvement of private capital (as public investment is limited by budget constraints).

Rehabilitation and modernization, which have expanded strongly over the past few years are expected to continue this trend and to extend also to non-residential buildings. Renovation measures are supported by government subsidies in many countries. This segment will continue to be the most important branch of the construction industry (32% of overall building output in 1995, compared to new residential building, 27%, civil engineering, 21%, non-residential building, 15% and public building, 5%.)

(ii) North American construction

In the second half of 1995, residential construction was generally at a high level in the United States, with falling mortgage rates and increasing employment and confidence, contrasting with a weak first half. Over the year as a whole, housing starts were at 1.35 million units, compared to 1.46 million in 1994. The increase in mortgage rates from late 1995 may slow down housing activity in the 1996, perhaps to a rate of 1.33 million units. Increasing sales of houses are resulting from fixed-rate mortgages which fell from over 9% at the beginning of 1995 to 7% at the end; although they have moved up steadily in 1996 to near 8.5% in June, the adjustable rate mortgage stood at a low 5.4% at mid-year. After the first quarter in 1996, housing starts increased over the same period in 1995 and *Random Lengths Export* forecast 1.47 million starts, equal to 1994.

North American housing starts

(in thousands)

Country	1993	1994	1995	1996[f]
Canada	156	154	111	112
United States	1287	1457	1350	1335

[f] Forecast

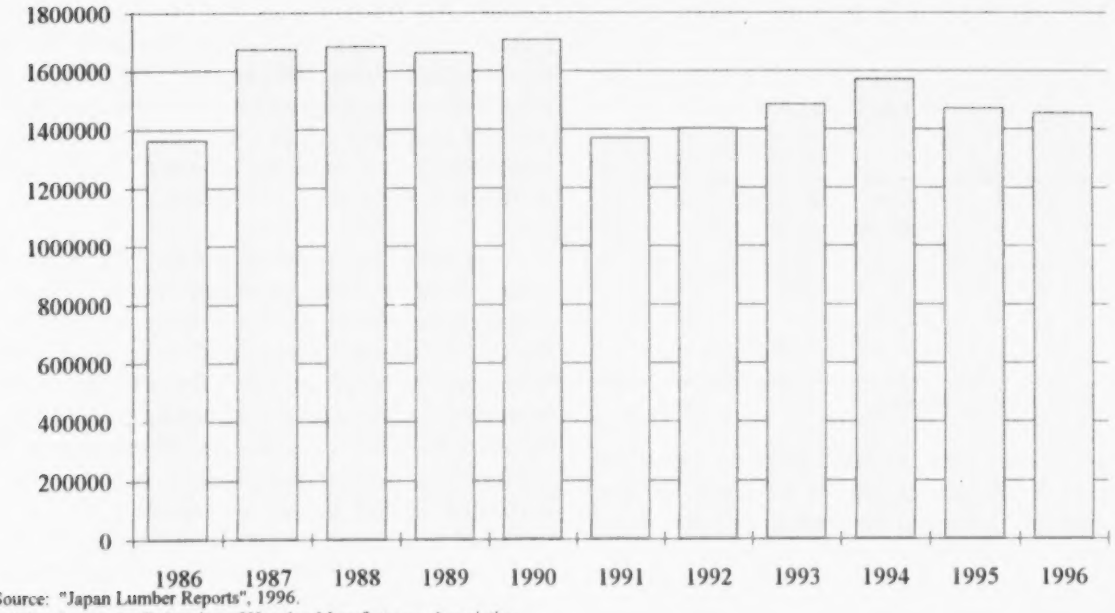
Source: Canadian Mortgage and Housing Corporation, and United States Bureau of the Census, 1996.

Canadian housing starts fell by 28% according to the Canadian Mortgage and Housing Corporation (CMHC) as a result of general economic sluggishness, lack of consumer confidence and high mortgage rates. This was the "worst year of new housing activity in 35 years" according to the Canadian Home Builders Association. According to the CMHC, the forecast for 1996, as of May, was for a slight rise to 112,300 houses.

(iii) Japanese construction

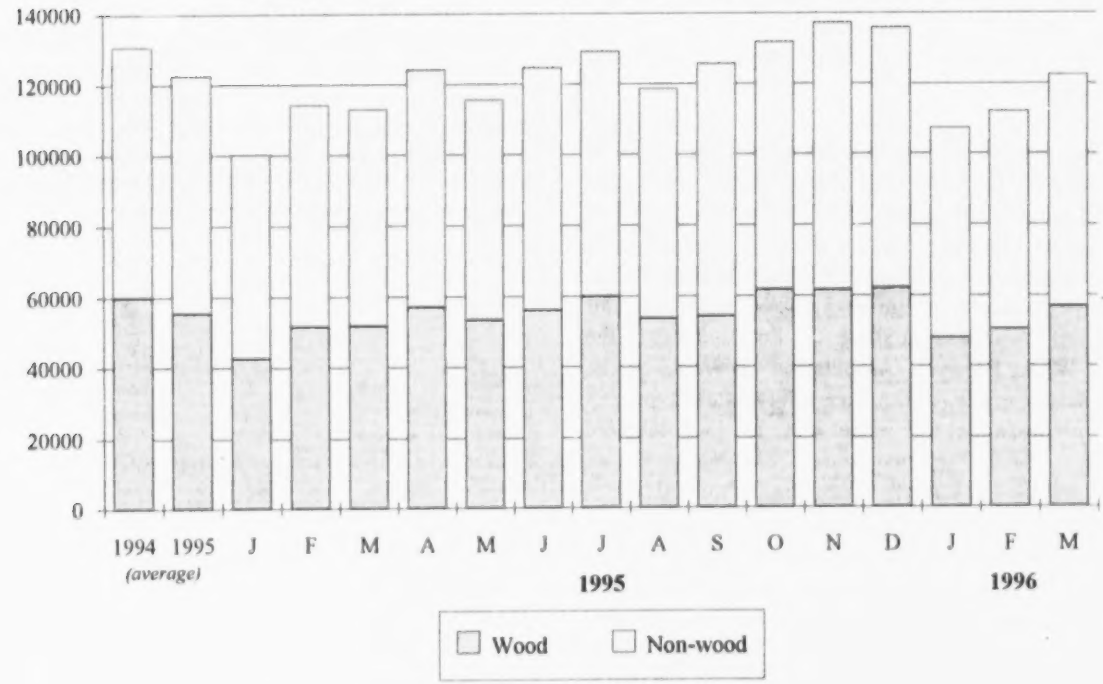
The driving force behind Japanese demand for sawnwood and panels is *housing*. Japan's housing starts in the 1990s appear at a slightly lower level than the late 1980s (graph 2). In 1995 housing starts (both wood and non-wood) fell by 6.4% to 1.47 million from the relatively high 1.57 of 1994 (graph 3).

Graph 2
Japan's housing starts, 1986-1996



Source: "Japan Lumber Reports", 1996.
1996 forecast by Federation of Housing Manufacturers Association

Graph 3
Japanese wooden versus non-wooden housing construction, 1994 to 1996



This downturn led forecasters to initially predict housing starts to fall again in 1996. But increased housing starts in the first quarter of 1996 have led to revised forecasts of 1.52 to 1.55 million houses.

It is important to segregate house construction into wood and non-wood (millions of units):

	Wood	Market share (%)	Non-wood	Total
1994	0.72	45.9	0.85	1.57
1995	0.67	45.3	0.80	1.47
1996	0.71	47.0	0.81	1.52

Source: *Japan Lumber Journal*.

The forecast above is based upon the reports in 1996 of increased shares, up to 47%, of wooden construction and increased housing starts. Based on floor space, rather than number of units, wooden housing starts in 1996 represented 56% of total starts according to the Japan Wood Products Information and Research Center, up from 54% in 1995. It should be noted that some wood is also used in the "non-wood" category too. The reasons for the building boom in 1996 are: 1. to buy before the sales tax increase in April 1997 (from current 3% to 5%); 2. historically low interest rates coupled with the anticipation of rising interest rates; 3. reconstruction after the Kobe earthquake of 1995; and 4. rising employment/declining unemployment.

The growth in wooden housing starts will be accentuated by the April 1996 change in building codes by the Japanese Ministry of Construction to allow foreign grade stamps that are deemed equivalent to Japanese Agricultural Standards (JAS) grading rules. The move brought optimism among exporters for opening of Japanese markets. For instance, the Western Wood Products Association (WWPA) of the United States grade stamp can now be used in 2x4 homes in Japan in the same way as JAS labelled products.

Acceptance by the Japanese Government Housing Loan Corporation of OSB for use as wall and floor sheathing in multi-story residential constructions should promote its use now that builders can secure low-interest loans. OSB is recognized by JAS standards as equivalent to plywood in some other applications. *Random Lengths Export* estimates that this represents a potential market of 0.3 million m^3 of OSB demand. Post and beam type construction, which accounts for 60-70% of wooden starts, is expected to decline to 55% by 2010. 2x4 starts are forecast to increase 10% or more per year; according to *Widman's World Wood Review*, the 100,000 mark for 2x4 houses could be reached in two years. Wooden prefabricated homes are also increasing from 5000 in 1995, by 50% per year. (The most common type of wall construction in North America uses 2x4s. A 2x4 is a board with a nominal cross section of 2 inches by 4 inches. Its actual cross section is 3.5 inches by 1.75 inches.)

In 1996, 2x4 constructions are 29% ahead of the same period in 1995 according to the Ministry of Construction. The North Americans are marketing this form of construction primarily for its compatibility to their normal production sizes and secondarily for its comparative advantages to traditional Japanese concrete construction of lower cost houses and apartments, faster construction, ease of maintenance and durability as evidenced by 2x4 homes' withstanding of the Kobe earthquake. 85% of the coniferous dimension for the 2x4 sector comes from Canada, although the new regulations admitting WWPA grades could change this balance.

Notes:

[1] This section draws heavily on the review of trends and outlook for construction by EUROCONSTRUCT (a consortium of economic research institutes with specialised knowledge of the construction sector) at its session in December 1995, as reported in *IFO Schnelldienst* and the FESYP annual report. At the time of drafting this *Review*, the results of the EUROCONSTRUCT meeting in summer 1996 were not available to the secretariat.

Chapter III

TRENDS IN THE SUPPLY, TRADE AND CONSUMPTION OF FOREST PRODUCTS

A. Roundwood

(i) Roundwood supply

Removals of roundwood in *Europe* in 1995 increased by 2.6% over 1994 to 246.2 million m^3 for coniferous and to 108.3 million m^3 for non-coniferous (current removals data were not available for France, an important log producer) (table 4). "Roundwood" includes "industrial wood in the rough" plus fuelwood; "industrial wood in the rough" combines sawlogs, veneer logs, pulpwood (both round and split) and other industrial wood.

Removals or production of coniferous logs stayed nearly steady at 136.1 million m^3 and non-coniferous logs increased by 2.7% to 30.2 million m^3.

In 1995, trends in coniferous log removals were not homogeneous throughout Europe (table 5). In line with increased sawnwood production, Sweden increased removals by 9.1% to 31.1 million m^3, while German removals decreased by 13.7% as sawnwood production slowed in the second half of the year in line with demand. Austria and Poland reduced log production as the German market for sawlogs stagnated.

Europe's coniferous pulpwood production, spurred on by the demand in early 1995, advanced by 6.1% to 85.2 million m^3 and non-coniferous pulpwood production increased by 4.5% to 31.2 million m^3.

In line with high early 1995 market demand, Finland and Sweden both increased production of coniferous pulpwood, by 1.6 million m^3 to a record high 18.8 million m^3, and by 1.3 million m^3 to 21.5 million m^3 respectively. Non-coniferous pulpwood removals increased by 13.7% in Finland to 4.6 million m^3, while in Sweden they moved up 4.0% to 2.6 million m^3. Similar trends of increased pulpwood production were shown in most European countries. Lithuania, which produced 1.5 million m^3 of coniferous pulpwood, had the highest percentage increase in 1995, over 300% from a low base. Even if the figure for 1994 was low, the pattern of increased production and exports from the Baltic countries has been established.

The *Russian Federation* further decreased total roundwood removals in 1995 to a level over half of the 1992 volume (the first year that separate country statistics for the former USSR became available). Coniferous roundwood fell slightly from the low 1994 level to 76.4 million m^3 and non-coniferous roundwood dropped more, by 14.0% to 32.7 million m^3. Within these categories, coniferous logs fell by 4.8% to 39.9 million m^3 and non-coniferous logs fell by 21.3% to 9.2 million m^3 reflecting weakness in the sawmilling sector.

Conversely, in 1995 the Russian Federation increased pulpwood production, coniferous by 26.9% to 17.2 million m^3 and non-coniferous by 24.7% to 4.8 million m^3. Much of the pulpwood exports went to Finland as traditional pulpwood trade regained momentum. In early 1996, despite a decreased demand for pulpwood, it continued to flow heavily into Finland and stocks were built at Finnish mills.

In the *United States*, roundwood removals advanced slightly from 1994 levels to 686.9 million m^3 however coniferous roundwood fell by 2.6% to 278.9 million m^3 while non-coniferous roundwood increased by 3.7% to 220.0 million m^3. The non-coniferous roundwood is almost equally divided between logs and pulpwood (some of which is used in wood-based panel production). Coniferous roundwood is 60% logs. Since the late 1980s when harvest on the National Forests declined due to environmental pressures, the coniferous roundwood removals have fallen by 18.8%, to their lowest level in a decade. The drop in the United States Pacific Northwest, by roughly 40% in the last seven years, is even greater than the national average. Canadian roundwood production statistics were not available.

Table 4
Roundwood removals in Europe, 1993 to 1995

Product	1993	1994	1995	Change 1994 to 1995	
				Volume	Percent
		(million m3)			(%)
Coniferous	217.3	239.9	246.2	6.3	2.6
Broadleaved	104.3	105.5	108.3	2.8	2.7
Total	321.6	345.4	354.5	9.1	2.6
of which :					
Fuelwood	56.2	55.8	56.2	0.4	0.7
Industrial wood	265.4	289.6	298.3	8.7	3.0
- Sawlogs	145.1	164.8	166.3	1.5	0.9
- Pulpwood	105.0	110.1	116.3	6.2	5.6
- Other	15.3	14.7	15.7	1.0	6.8

Table 5
Removals of coniferous logs in selected countries, 1992 to 1995

	1992	1993	1994	1995 (prelim.)	Change 1994 to 1995	
					Volume	Percent
			(1000 m3)			(%)
REMOVALS						
EUROPE :	113740	117845	135454	136111	657	0.5
of which :						
Sweden a/	24300	25400	28500	31100	2600	9.1
Finland	15241	17469	22012	21989	-23	-0.1
Germany	13565	14753	19741	17029	-2712	-13.7
France	12400	11662	12814	12814	...	...
Poland	7519	7424	7726	7550	-176	-2.3
Austria	6265	6363	7953	7513	-440	-5.5
Czech Republic	4110	4485	5156	5570	414	8.0
Spain	4334	4543	4543	4543	...	...
Norway	4412	4764	4282	4282	...	...
Portugal	3591	3521	3796	3796	...	...
United Kingdom	3135	3247	3495	3495	...	...
Turkey	2752	2742	2541	3083	542	21.3
Switzerland	2520	2495	2802	2802	...	...
Other countries	9596	8977	10093	10545	452	4.5

a/ Felling year.

(ii) European removals

Removals of roundwood in Europe in 1995 increased for the second consecutive year to approximately 2.6%, based upon replies received, to 354.5 million m^3 which is still below the 1989 high of 379 million m^3. Of this total, coniferous saw and veneer logs constituted 136.1 million m^3 in 1995, approximately the same level as in 1994. Non-coniferous log production moved up by 2.7% to 30.2 million m^3, well below 1989's high of 36 million m^3. Once again a quarterly breakdown of the year's total would show heavy removals in early 1995, but reduced production in the second half. Perhaps some stocking in the forest took place as planned harvests were conducted, but logs were not "removed" from forests.

Log prices in Europe generally rose in 1995 with escalating sawnwood prices early in the year, but then followed the decline in sawnwood and pulp prices in 1996. For example, German log prices which peaked in early 1995, have dropped by approximately 20% during the last year, below the price level in 1985 (graph 4). The winter of 1995/1996 was favourable for logging in parts of Europe and occasionally stocks of logs increased, beyond demand, further pressuring prices down.

In Finland in 1996, citing sawn timber prices down by 25-30%, the three corporations which purchase roundwood announced plans to cut sawlog and pulplog prices by up to 20% from the last negotiated prices in 1995. After these cuts, according to the *Timber Trade Journal*, the prices of logs remained above early 1995 levels. In Austria, spruce and fir log prices fell in early 1996 below 1000 Austrian schillings per cubic metre to a price level from 1993.

European pulpwood removals, driven by early 1995 pulp prices, increased by 6.2% over 1994, most of the increase coming from coniferous pulp logs. In a French departmental sale in June 1996, pulpwood prices fell from 150 French francs (approximately $30) per m^3 to 110 French francs, a 26.7% drop in one quarter.

Graph 4
Producer price indices for spruce logs from public forests in Germany, 1993 to 1996

Source: "Preise und Preisindizes für die Land- und Forstwirtschaft," Statistisches, Bundesamt, 1996

Pulpwood exports increased for many countries in central and eastern Europe in 1995 shown in the following table of coniferous and non-coniferous combined:

	Pulpwood removals (million m^3)	% change 1995/1994
Poland	6.6	2.2
Czech Republic	5.5	7.9
Slovakia	2.7	11.3
Lithuania	2.1	184.5
Romania	1.9	26.9
Hungary	0.7	-22.9
Croatia	0.4	-9.7
Bulgaria	0.9	17.0

(iii) North American removals

In the *United States*, coniferous sawlog and veneer log production continued the trend for the last seven years, when the Pacific Northwest supply constraints for conservation of the northern spotted owl habitat began, and production decreased by 5.3% to 166.4 million m^3 in 1995. Non-coniferous log production, which has increased over the last decade, rose by 1.3% to 69.5 million m^3.

United States pulpwood production increased slightly both for coniferous, by 1.7% to 89.1 million m^3 and for non-coniferous, by 7.0% to 67.5 million m^3. Despite increased recycling of paper and paperboard and increased sawmill residues in 1995, pulpwood markets remained strong. A portion of "pulpwood", especially the softer non-coniferous species, is used to manufacture composition wood-based panels like OSB.

(iv) European trade of wood in the rough

Europe's trade deficit of industrial wood in the rough widened in 1995 to 28.5 million m^3 from 19.6 million m^3 in 1994. Exports shrank slightly, to 16.7 million m^3, but imports increased, although at a decreasing rate throughout the year, by 11.7%, to 45.2 million m^3 (table 6). An important flow of pulplogs came from the Russian Federation and the Baltic Countries. Trade lost the distinction between sawlogs, pulpwood and other roundwood when the Custom Cooperation Council's Harmonized System of trade classification came into effect in 1993.

Of all European countries, only Sweden significantly increased its industrial wood exports in 1995, by 63.7% to 1.7 million m^3. Much of this increase went to Norway. For Europe's largest roundwood exporter, Germany, exports fell by 18.0% in 1995 and imports shrank by 25.7% as roundwood needs were satisfied through domestic supply

Part of the flow of industrial wood in the rough into Europe came from the Russian Federation, which increased its exports of sawlogs and pulplogs by 13.4% to 12.3 million m^3. Much of the increase of non-coniferous logs, including birch pulp logs, went to Finland. Russia increased log exports to Japan in 1995, by 12.6%, to 5.4 million m^3.

Additional exports of industrial wood in the rough flowed west from the Baltic Countries, of which Lithuania increased exports significantly to 1.4 million m^3. Latvia's production and exports of wood in the rough pulpwood doubled from 1994 to 1995, to reach 3.1 million m^3. In 1995, wood and wood products exports made up 20.3% of Latvia's total exports, by far (7 to 10 percentage points) the most important commodity group of the nation's exports.

Sweden increased its wood in the rough *imports*, mostly pulpwood, when pulp markets were strong in the early year. Italy's imports of coniferous and non-coniferous wood in the rough, which had swelled in 1994, fell back, by 18.7% in 1995. Indications at mid-1996 were that some strength was resurfacing in the Italian markets and imports were increasing for both coniferous sawlogs and veneer logs from Austria and some non-coniferous logs from the former Yugoslavia. Following the improvement of security conditions in the former Yugoslavia, the renewal of traditional trade patterns is taking place. Norway's imports of wood in the rough increased also, by 43.9% to reach 3.8 million m^3, of which a large percentage were coniferous sawlogs from Sweden.

Finnish imports of industrial wood in the rough expanded by 38.3% in 1995 to 9.4 million m^3, of which 74.0% were birch, mostly from neighbouring Karelia and Estonia, for pulp and plywood manufacture. Finland has been importing roundwood (birch, spruce and pine and pulpwood, sawlogs and veneer logs) from the neighbouring Russian Karelian Republic for a long time. However, in 1995 a resurgence in Russian Karelian exports occurred and has continued into 1996, despite weakening of Finnish markets and an oversupply of pulp and sawlogs.

Table 6
Exports and imports of industrial wood in the rough, 1992 to 1995

	1992	1993	1994	1995 (prelim.)	Change 1994 to 1995	
					Volume	Percent
			(1000 m3)			(%)
EXPORTS						
EUROPE :						
- Coniferous	12428	10850	11979	11596	-383	-3.2
- Broadleaved	7601	4145	4874	5105	231	4.7
TOTAL :	20029	14995	16853	16701	-152	-0.9
of which :						
Germany	6035	4403	4698	3852	-846	-18.0
France	3833	1669	1835	1811	-24	-1.3
Sweden	640	833	1054	1725	671	63.7
Switzerland	1107	1055	1053	1016	-37	-3.5
Finland	480	912	1444	909	-535	-37.0
Belgium-Luxembourg	1256	629	874	805	-69	-7.9
Portugal	638	361	629	778	149	23.7
Slovakia	284	284	910	759	-151	-16.6
Poland	963	584	752	752	...	...
Czech Republic	270	1186	605	671	66	10.9
Austria	486	551	631	631	...	...
Hungary	988	512	451	562	111	24.6
Other countries	3049	2016	1917	2430	513	26.8
Russian Federation	10114	14200	11117	12611	1494	13.4
Canada	2103	1175	1253	1187	-66	-5.3
United States	17276	13030	12215	12817	602	4.9
North America	19379	14205	13468	14004	536	4.0
IMPORTS						
EUROPE :						
- Coniferous	16248	15198	19117	20123	1006	5.3
- Broadleaved	17836	15481	21370	25118	3749	17.5
TOTAL :	34084	30679	40487	45241	4754	11.7
of which :						
Finland	6022	5468	6761	9353	2592	38.3
Sweden	4787	4273	6666	7653	987	14.8
Italy	5425	4670	6068	4936	-1132	-18.7
Austria	4700	4483	4828	4828	...	...
Norway	1055	1151	2617	3765	1148	43.9
Belgium-Luxembourg	2314	1859	2817	3141	324	11.5
Spain	2203	1281	1426	2192	766	53.7
Germany	1679	1126	2742	2036	-706	-25.7
France	1511	1151	1559	1792	233	14.9
Portugal	636	420	1105	1632	527	47.7
Turkey	965	2231	1196	777	-419	-35.0
Denmark	323	182	448	655	206	46.0
Other countries	2464	2384	2253	2482	228	10.1
Canada	5123	4428	5255	6555	1300	24.7
United States	273	458	797	859	62	7.8
North America	5396	4886	6052	7414	1362	22.5
Japan	23156	22984	22385	22385	...	...

Increasingly Europeans are finding sawlog markets in Japan:

Country	1994 1000 (m^3)	1995 1000 (m^3)	% change 1995/1994	1994 $ (million)	1995 $ (million)	% change 1995/1994
Finland	246.2	391.5	59.0	32.5	51.8	59.2
Sweden	21.4	49.3	130.9	2.9	6.1	113.0
Germany	0.3	39.5	++	0.1	10.0	++
Denmark	0	7.9	++	0	1.8	++
Belgium	0.1	7.3	++	0.1	1.4	++
France	1.6	6.7	329.9	2.0	4.9	143.8
Austria	26.0	6.4	-75.1	4.2	1.2	-71.1
Poland	0	2.1	++	0	0.2	++
Europe	297.8	511.1	71.6	42.4	78.0	83.9

++ = more than 1000% increase
Source: *Japan Lumber Journal*, 1996.

(v) North American trade of wood in the rough

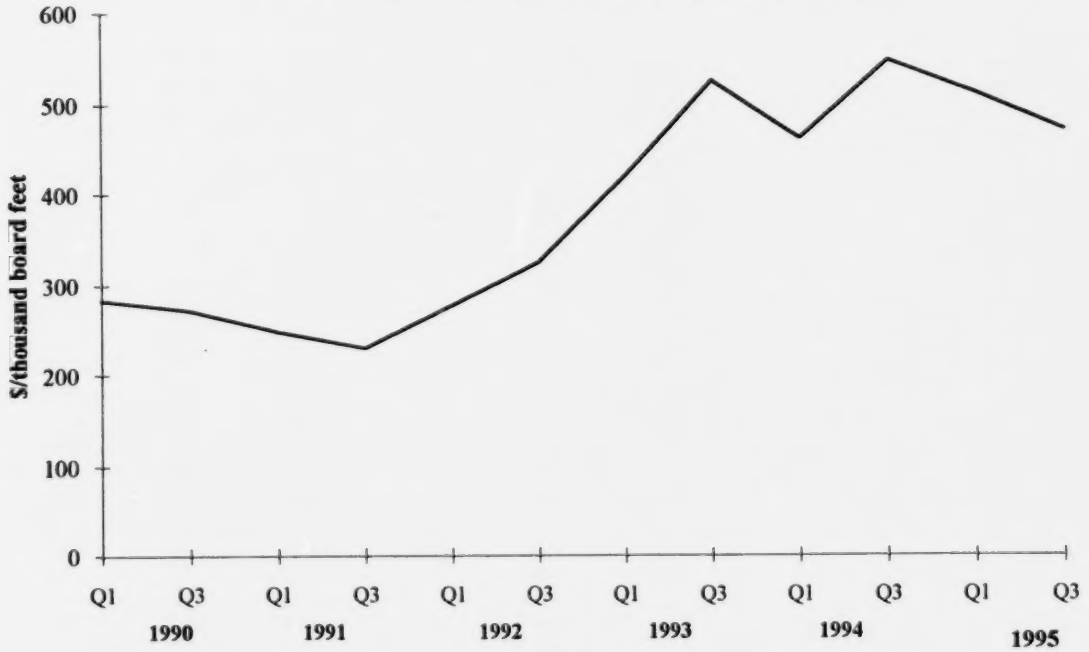
North American exports of industrial wood in the rough (saw, pulp and veneer logs, plus other roundwood) rose by 4.0% in 1995 partly due to increased exports of United States coniferous pulpwood in early 1995. The United States exports of coniferous industrial wood increased by 5.3% to 11.6 million m^3, the first increase since removals began falling in the late 1980s. United States log prices were gradually falling from their peak in 1994 according to available reports (graph 5)

The decrease in log exports to Japan was made up in increases to Canada (some of which may have been re-shipped to Japan and other countries). Non-coniferous exports, which had increased by 11.3% from 1993 to 1994, remained steady overall from 1994 to 1995 at 1.2 million m^3, but the volumes changed significantly by country as indicated below. United States imports are relatively small, 0.9 million m^3, of which 0.6 million m^3 is coniferous.

United States top 11 export markets for coniferous logs in 1995:

	$ Million	1000 m^3	% change on volume 1995/1994
Japan	1662.5	7710.1	-5.3
Canada	150.0	2473.1	96.2
South Korea	139.8	1021.0	14.1
Taiwan	23.5	141.2	40.8
China	12.3	87.5	-73.9
Mexico	4.8	32.8	-24.2
Netherlands	1.8	17.2	207.6
Italy	1.6	11.6	-50.7
Bahamas	1.4	9.6	6.1
Syria	1.1	8.9	-82.2
Germany	0.8	8.1	-77.7

Graph 5
United States non-coniferous log prices, 1990 to 1995



(Prices paid for red oak, grade 1 logs, delivered to sawmills, Doyle log scale). Source: Ohio Division of Forestry, "Ohio Timber Prices".

United States top 10 export markets for non-coniferous logs in 1995:

	$ Million	1000 m^3	% change on volume 1995/1994
Canada	769.1	98.8	8.3
Japan	119.1	52.2	4.5
Italy	66.8	22.7	-22.6
South Korea	44.7	13.1	13.0
Germany	44.4	19.7	-21.4
Indonesia	39.0	15.6	-6.6
Taiwan	33.7	12.6	-10.2
Belgium	12.9	5.9	15.7
United Kingdom	12.5	9.1	-7.9
Spain	12.2	5.3	-10.5

Source: *Wood Products: International Trade and Foreign Markets* by USDA Foreign Agricultural Service, 1996.

Canadian exports of wood in the rough fell by 5.3% to 1.2 million m^3. Coniferous wood in the rough exports declined from approximately 1 million m^3 in 1994 to 0.7 million m^3 in 1995 as domestic markets took precedence. Canada imported 6.6 million m^3 of wood in the rough during 1995, an increase of 24.7%, of which the majority, 5.1 million m^3 of coniferous, posted a 33.2% increase over 1994.

B. Coniferous sawnwood

(i) Consumption

The *apparent domestic consumption* of coniferous sawnwood in *Europe* in 1995 fell by 3.5% over 1994 when it spiked following five years of decline (table 7 and graph 6). Consumption was 73.4 million m^3, held back by the weakness in the housing market in most European countries in the second half of the year.

For example, in the United Kingdom, the 14.6% drop in housing starts influenced a 25% or 2.5 million m^3 drop in consumption (assuming constant production from 1994 and an even greater drop if production decreased). However, in Germany, where a decrease in housing in the western *Lander* was more than made up in the eastern *Lander*, and overall housing starts increased slightly by 1.5%, apparent consumption of sawnwood fell by 5.0%. It was evidently dragged down by other markets for coniferous sawnwood as exports remained almost constant from 1994.

In *central and eastern Europe*, in particular Hungary and Poland, consumption rose for the second consecutive year as domestic demand for housing and wood products increased with progress in the transition process. However Poland's exports of coniferous sawnwood fell as demand from the United Kingdom and Germany weakened.

Other countries in transition had different results for 1995 with increases in consumption in the Czech Republic, Croatia, Latvia and Republic of Moldova, but decreases in Slovakia, the Former Yugoslav Republic of Macedonia, Lithuania and Romania. Despite a 10.3% drop in domestic consumption, Romania increased production in 1994, by 1.2%, to 0.9 million m^3, and simultaneously increased exports by 12.5% to 0.5 million m^3.

Apparent domestic consumption continued to decline in the *Russian Federation*, by 11.2% in 1995 over 1994. Since 1992, the fall in consumption of coniferous sawnwood for Russia has been 54.5%. The many reasons for the decline continue unresolved, primarily the lack of investment capital, but in addition, the lack of infrastructure and domestic market decline due to increased unemployment. While it is not possible to speculate whether these problems will continue, some optimism was expressed at the November, 1995 Timber Committee Session where production, exports and hence consumption were forecast to improve in 1996.

In *North America*, apparent domestic consumption fell by 4.7% as United States housing starts fell 7.3% to 1.35 million private dwellings. Most United States imports come from Canada, in fact, Canadian coniferous sawnwood accounted for over one-third of the United States coniferous sawnwood consumption. Canadian housing starts, which had fallen three consecutive years to a low 153,000 houses in 1994, declined again in 1995, by 28%. Resulting from strong export sales, which increased by 2.6 million m^3 in 1995, and weaker domestic demand, Canadian consumption fell by 2.2%.

(ii) Coniferous sawnwood production

Production of coniferous sawnwood in *Europe* increased by 2.1% in 1995 over 1994 to 75.3 million m^3, the highest level in the last decade (table 8). The increases came early in 1995 while demand was still relatively strong compared to the collapse of the sawnwood market in the second half of the year. Faced with an oversupply of sawnwood at mid-year, sawmillers limited their production. Nevertheless, prices fell in the later half of 1995. These cyclical downturns are sometimes seen positively by sawmillers

Table 7
Coniferous sawnwood balance in Europe, the Russian Federation and North America, 1991 to 1995
(million m^3)

	1991	1992	1993	1994	1995 (prelim.)	Timber Committee estimates a/	
						for 1995	for 1996
EUROPE							
Production	67.39	66.66	67.68	73.69	75.25	74.50	73.13
Imports	26.41	27.57	27.11	32.36	28.18	30.13	30.19
Exports	20.88	23.02	26.12	30.00	30.05	29.43	29.38
Net trade b/	-5.53	-4.55	-0.99	-2.36	1.87	-0.69	-0.81
Apparent consumption	72.92	71.21	68.67	76.05	73.38	75.20	73.94
RUSSIAN FEDERATION							
Production	...	43.70	32.80	24.64	21.41	22.64	23.64
Imports	...	0.02	0.01	0.04	0.04	0.04	0.04
Exports	...	5.96	6.46	5.33	4.26	4.13	4.63
Net trade b/	...	5.94	6.45	5.29	4.22	4.09	4.59
Apparent consumption	...	37.76	26.35	19.35	17.19	18.55	19.05
NORTH AMERICA							
Production	129.30	136.99	136.39	141.14	134.78	140.75	141.25
Imports	28.06	31.88	36.17	38.98	41.36	40.58	40.88
Exports	43.71	45.52	48.35	49.98	52.14	51.52	51.92
Net trade b/	15.65	13.64	12.18	11.00	10.78	10.93	11.03
Apparent consumption	113.65	123.35	124.21	130.14	124.00	129.81	130.21

a/ At November 1995 session. The Committee's estimates for 1995 and 1996 have been adjusted to make them comparable with the historical (actual) data for 1991-1995.
b/ + = net exports; - = net imports.

Graph 6
Consumption of coniferous sawnwood, 1964 to 1995

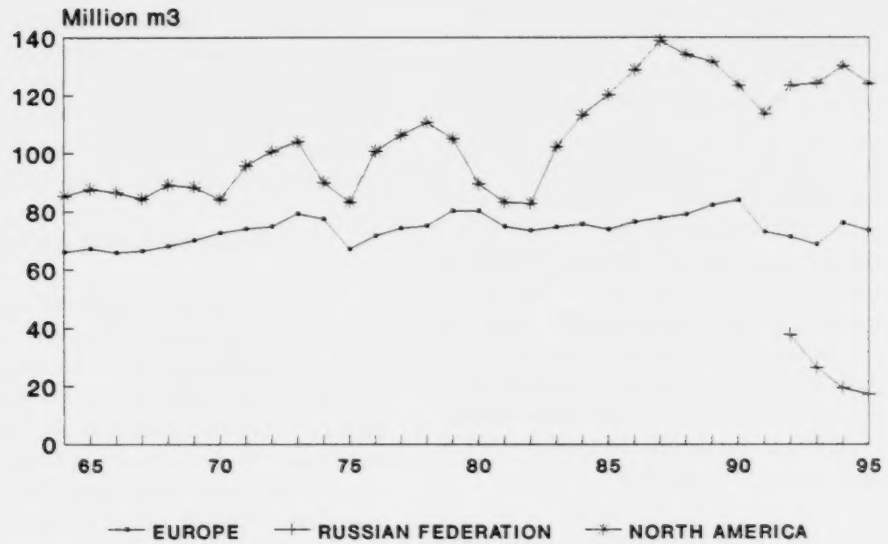


Table 8
Production of coniferous sawnwood, 1992 to 1995

	1992	1993	1994	1995 (prelim.)	Change 1994 to 1995 Volume	Change 1994 to 1995 Percent
			(1000 m3)			(%)
EUROPE	66659	67682	73693	75254	1561	2.1
of which :						
Main exporting countries	45687	46504	52822	53976	1154	2.2
Sweden	11915	12538	13616	14559	943	6.9
Germany	11866	10358	12365	12365	...	...
Finland	6900	8305	9700	9300	-400	-4.1
Austria	6701	6539	7316	7552	236	3.2
Poland	3555	3694	4500	4600	100	2.2
Czech Republic	2400	2770	2925	3200	275	9.4
Norway	2350	2300	2400	2400	...	...
Other countries	20972	21178	20871	21278	407	2.0
of which :						
France	6500	6166	6650	6700	50	0.8
Turkey	3300	3179	2334	2502	168	7.2
Spain	1686	2159	2159	2159	...	...
United Kingdom	1916	1950	2050	2050	...	...
Switzerland	1400	1300	1200	1342	142	11.8
Portugal	1350	1300	1244	1244	...	...
Belgium-Luxembourg	900	900	925	925	...	...
Russian Federation	43695	32800	24640	21410	-3230	-13.1
Canada	55512	58651	60648	59343	-1305	-2.2
United States	81481	77736	80493	75440	-5053	-6.3
North America	136993	136387	141141	134783	-6358	-4.5

who know log prices will decline and will be slow to recover, and if sawnwood demand and prices return, they will be in a more profitable situation. Difficult economic periods of low profits also accelerate the structural process of concentration in the sawmilling industry.

The moroseness in the markets in the second half of 1995 had an unequal effect on European producers. Sweden overcame the stagnating export markets (but recovering domestic markets) to reach record outputs of 14.6 million m^3, almost 20% of the European total. While Sweden's peak in 1994 approximately matched the previous high of 13.6 million m^3 in 1973, the 6.9% increase in 1995 eclipsed all previous records. Austria also produced to new levels, 7.6 million m^3, while France kept moving upward towards its peak in 1990 of almost 7 million m^3. In contrast, Europe's third producer, Finland, cut production by some 400,000 m^3 or by 4.1% to end at 9.3 million m^3.

Despite the falling prices which accompanied the oversupply situation by mid-1995, many European companies experienced record profits. However these profits may be needed in 1996 as companies are finding the limited markets to be very competitive and thus prices and earnings are down at mid-1996.

It should be noted that Germany's production figure was not officially received and thus the 1994 production level, 12.4 million m^3, was repeated in order to calculate a European total; Germany's coniferous sawnwood classification was changed to include additional products like fingerjointed wood under the heading "sawnwood." Germany's production in 1995 with the new classification was 12,849,991 m^3, slightly above the 1994 figure. Germany's 1994 and 1995 production levels are not comparable, but the real trend might be for stability.

According to the European Organization of the Sawmill Industry, the United Kingdom produced 2.1 million m^3 of coniferous sawnwood in 1995 (official statistics were not received). With their lower domestic requirements, this production level is 27.6% of consumption.

Calls for production cuts of 5% by the European industry in 1995 may have been heeded in the second half of 1995, but they are disguised by the overall increases during the year. In the first quarter of 1996 production was indeed down, Swedish and Finnish sales were 14.7% and 16.6% below 1995 levels respectively. However in the sales announced in July, 1996 by the Swedish Wood Exporters Association, total sales up to May, 1996, for delivery during 1996, were slightly ahead, by 0.3%, of record 1995 levels (for details, see "European developments").

In *central and eastern Europe* in 1995, increases in production levels of coniferous sawnwood were reported in Poland, Czech Republic, and Slovakia while Hungary continues to decrease production (from 500,000 m^3 in 1986 to 83,000 m^3 in 1996) because of the collapse of the domestic sawmilling industry based on imported coniferous logs. Some of the increase in central and eastern European production was for export and some was for expanding domestic markets. These changes in production levels can be linked to the economic conditions described in Chapter II.

At least two of the *Baltic Countries* reported coniferous sawnwood production increases in 1995 over 1994: Latvia by 26.7% to 0.95 million m^3 and Lithuania by 23.6% to 0.87 million m^3. Estonian statistics were not received.

In the *Russian Federation*, production fell again by 13.1% to 21.4 million m^3 as limited and competitive export markets, combined with the problems of the transition process, continued to negatively affect industrial outputs. When separate statistics began to be received for the Russian Federation in 1992, production was 51.0% higher at 43.7 million m^3. At the November 1995 Timber Committee Session, production in 1996 was forecast to improve to 23 million m^3.

North American coniferous sawnwood production fell by 4.5% in 1995 from 1994 to 134.7 million m^3. The United States produced 6.3% less than in 1994 and Canada produced 2.2% less. With United States housing starts down 7.3% in 1995, continued resource restrictions in the Pacific Northwest and imports taking a larger share of the United States demand, it is understandable why United States production decreased. Canadian mills commanded a 35.7% of the diminished United States market.

In early 1995, the high demand for pulp translated into a high demand for sawmill chips. Record pulp prices meant higher residue prices and sawmills were driven to produce sawnwood, almost as a byproduct for chips. In fact, some west coast Canadian sawmills were said to offset losses from sawnwood production with profits from the sales of residues. Some mills even chipped the lowest grade sawnwood when residues had higher value. Sawmills that are integrated with pulp companies received orders from management to increase production simply to generate the byproducts to be used as pulp furnish. Independent sawmillers attempted to make up for the losses for less profitable years and perhaps anticipating the cycles in prices, they may have sheltered themselves from the downturn in the second half of the year and early 1996. The result was an oversupply of sawnwood and like pulp, prices slid downward.

Now in 1996 that the pulp prices and demand for chips have fallen, some sawmills in North America have reduced production, and some have closed temporarily, at least partly related to problems of chip sales. With lower sawnwood prices, meaning smaller profits, chip sales are necessary to keep mills running.

The Timber Committee predicted that European production would fall in 1996, by 1.8% to 73.2 million m^3, while an increase was predicted for the Russian Federation, up 4.6% to 23.0 million m^3. Production in 1996 in North America is forecast to increase slightly, by 0.4% to 141.0 million m^3, as United States home construction increases to meet demand for new homes before interest rate rises.

(iii) Coniferous sawnwood trade

In 1995 the total volume of coniferous sawnwood traded decreased slightly in the whole ECE area as exports increased 1.3% and imports decreased more, by approximately 2.5% (table 9). However regional differences exist. In *Europe*, exports remained stable at 1994 levels but imports fell by 12.9%. Consequently Europe became a net exporter as a region for the first time. However it should be considered that trade data were not received from all countries, including Austria, Europe's third largest exporter, which could affect the trade balance. The positive trade balance showed that Europe became more self-sufficient.

Europe's leading importers in 1994, the United Kingdom and Germany, reduced imports in 1995 by

Table 9
Exports and imports of coniferous sawnwood, 1992 to 1995

	1992	1993	1994	1995 (prelim.)	Change 1994 to 1995	
					Volume	Percent
			(1000 m3)			(%)
EXPORTS						
EUROPE	23020	26117	29998	30053	55	0.2
of which :						
Sweden	8240	10040	10423	10641	218	2.1
Finland	4268	6188	7149	7343	194	2.7
Austria	3871	3850	4457	4457	...	...
Germany	945	953	1534	1543	9	0.6
Czech Republic	700	787	1170	1230	60	5.1
Poland	877	1072	1132	750	-382	-33.7
Norway	809	870	776	716	-60	-7.7
Portugal	1079	450	540	495	-45	-8.3
Romania	221	25	439	494	55	12.5
France	346	366	391	392	1	0.3
Other countries	1664	1516	1987	1992	5	0.2
Russian Federation	5960	6460	5330	4260	-1070	-20.1
Canada	39352	42945	44924	47561	2637	5.9
United States	6166	5407	5058	4581	-477	-9.4
North America	45518	48352	49982	52142	2160	4.3
IMPORTS						
EUROPE	27571	27114	32359	28183	-4176	-12.9
of which :						
United Kingdom	6899	6421	8173	5640	-2533	-31.0
Italy	4402	4326	4827	4612	-215	-4.5
Germany	4458	4487	5303	4511	-792	-14.9
Netherlands	2436	2779	3047	2636	-411	-13.5
Denmark	1660	1682	2278	1868	-410	-18.0
France	1401	1397	1608	1545	-63	-3.9
Belgium-Luxembourg	1252	1079	1284	1360	76	5.9
Spain	1217	970	1035	1112	77	7.4
Hungary	566	586	712	950	238	33.4
Austria	629	677	834	834	...	...
Norway	411	487	729	691	-38	-5.2
Other countries	2239	2223	2529	2425	-105	-4.1
Canada	757	645	691	760	69	10.0
United States	31127	35529	38288	40596	2308	6.0
North America	31884	36174	38979	41356	2377	6.1
Japan	7710	8835	9082	9082	...	...

2.5 million m^3 or 31.0% and by 0.8 million m^3 or 14.9% respectively. German mills, which might have exported to the United Kingdom, looked first at domestic opportunities, but still succeeded in increasing exports by 0.6% to 1.5 million m^3.

Despite this weakened demand, again linked to reduced housing construction, some countries actually increased exports to record levels: for example Sweden, up 2.1% to 10.6 million m^3, Finland up 2.7% to 7.3 million m^3 and Germany as mentioned above. Neither trade statistics nor estimates were available for Austria. What the statistics do not show is that these countries have successfully developed markets outside of Europe (in order to buffer disastrous market swings). Many European countries have discovered the Japanese market for sawnwood (coniferous and non-coniferous) and 1996 shipments could be even higher (see table below). At one point in 1995, sawnwood prices from Europe were less than from Russia, but then prices from Russia fell in relation to European sawnwood.

European exports of coniferous and non-coniferous sawnwood to Japan in 1994 and 1995:

Country	1994 1000 m^3	1995 1000 m^3	% change 1995/1994
Finland	214.6	366.0	70.5
Sweden	204.3	209.3	2.5
Austria	77.5	157.3	102.8
Germany	37.8	55.0	45.3
Norway	25.1	31.0	23.4
Italy	17.9	28.9	61.2
Europe	590.9	866.4	46.6
Russia	351.8	425.0	20.8

Source: *Japan Lumber Journal*, 1996.

European exports of coniferous and non-coniferous sawnwood to Japan in 1994 and 1995:

Country	1994 Million $	1995 Million $	% change 1995/1994
Finland	61.9	105.5	70.4
Sweden	67.6	69.4	2.6
Austria	27.3	54.8	100.5
Germany	16.1	22.0	36.5
Norway	9.1	10.8	18.9
Italy	14.3	24.0	67.3
Europe	202.0	296.8	46.9
Russia	77.4	89.9	27.8

Source: *Japan Lumber Journal*, 1996

Central and eastern European countries generally increased exports according to the reports received from the Czech Republic, up 5.1% to 1.2 million m^3, Romania, up 12.5% to 0.5 million m^3 and Slovakia, up 18.7% to 0.4 million m^3.

The *Baltic Countries* found export markets favourable in early 1995 as shown in the table below. Lithuania increased exports considerably, by 180%, to 730,000 m^3. Latvian exports increased significantly also, by 42% to reach 996,000 m^3. From correspondents it is assumed Estonian exports of sawnwood fell slightly, by 4% to 316,000 m^3 in 1995 although sawmill capacity is up now to 350,000 m^3 as domestic and joint ventures, especially Scandinavian and German, succeeded in expanding sawmilling and kiln drying capacity in the last year.

Baltic coniferous sawnwood 1993-1995
(1000 m^3)

	Production			Exports		
	1993	1994	1995	1993	1994	1995
Estonia	270	310	...	142	328	316
Latvia	401	750	1300	254	700	996
Lithuania	627	700	865	92	260	730

Domestic consumption remains low relative to exports in the Baltic States. They have successfully advanced their exports to western Europe over the past few years as quality improved and kiln drying became available.

Exports of coniferous sawnwood from the *Russian Federation* fell again in 1995, by 20.1% to 4.3 million m^3. An explanation of this and other developments appears in a new section (vi) "Russian Federation developments" in the coniferous sawnwood sector.

In *North America* in 1995, Canadian exports of coniferous sawnwood increased 5.9% over 1994, to reach a record level of 47.6 million m^3. Most of that volume was shipped south to the United States which increased imports to a new level of 40.6 million m^3, a 6.0% increase over 1994. These substantial increases brought Canadian sawnwood to 35.7% of the United States coniferous market, a level which led to renewed disputes over subsidies and tariffs (see section (iv), "North American developments"). Canada has replaced some of the shrinking United States exports to Asia. North American exports to Europe are below former levels since the EU toughened phytosanitary standards in 1994 and the United Kingdom instituted kiln drying requirements for some construction grades in 1995.

United States exports, which have been shrinking since the reduction in harvests in the Pacific Northwest in the late 1980s, fell again, by 9.4% as production decreased and the domestic market consumed available sawnwood.

The Timber Committee predicted European trade of coniferous sawnwood in 1996 would remain even with 1995 levels. Exports of Russian sawnwood were forecast to rise by 10.6 percent, however this forecast should be cautiously considered in light of a similar forecast for 1995. Similarly, the North American forecast of a slight (less than 1%) rise in trade in 1996, may be changed with the advent of their new softwood lumber agreement.

(iv) North American developments

The 12-year North American *coniferous sawnwood trade dispute*, which was "finally" resolved last year and upheld under the NAFTA trade dispute mechanism, was undone when the United States Coalition for Fair Lumber Imports threatened to press for a punitive 10% tax on Canadian coniferous sawnwood imports (36% of 1995 United States consumption) unless an agreement on restricted exports to the United States was signed by April 1995. As mentioned in last year's *Review*, the United States had lost an appeal to the 1994 ruling by the "extraordinary challenge panel" which was to have concluded the battle over alleged Canadian coniferous sawnwood subsidies. The United States had to refund approximately $800 million in duties it had kept in escrow since imposing a 6.5% tariff on Canadian coniferous sawnwood imports.

The consultative process initiated between the two countries in mid-1995 led to the signing at the end of May, 1996 of the "Softwood lumber agreement between the government of the United States of America and the government of Canada." It will limit duty-free Canadian coniferous sawnwood exports to the United States at 14.7 billion board feet (34.7 million m^3; 1 m^3 = 424 board feet), down from last year's high of 17 billion board feet; since 1990, the Canadian share of the United States market has increased from 25% to 35.7%. The Canadian government will levy a tax of C$50 per 1000 board feet on the first 650 million board feet above the 14.7 billion board feet, and then C$100 per 1000 board feet for any exports over that.

Curiously, the agreement includes a price clause: if the price of 2x4s increases above $405 per 1000 board feet, then Canada can ship an extra 92 million board feet into the United States without a duty. One result of the agreement is an increase in the price of North American coniferous sawnwood. In the summer of 1996 the price of 2x4s was above the $405 mark which will enable shipment of more Canadian sawnwood into the United States duty free.

This 14.7 billion board feet cap exceeds exports to the United States by the 4 provinces involved (Alberta, British Columbia, Ontario and Quebec) in any year except 1995. The Atlantic provinces plus Manitoba and Saskatchewan are excluded, although combined they exported "only" 700 million board feet (1.7 million m^3) to the United States in 1995.

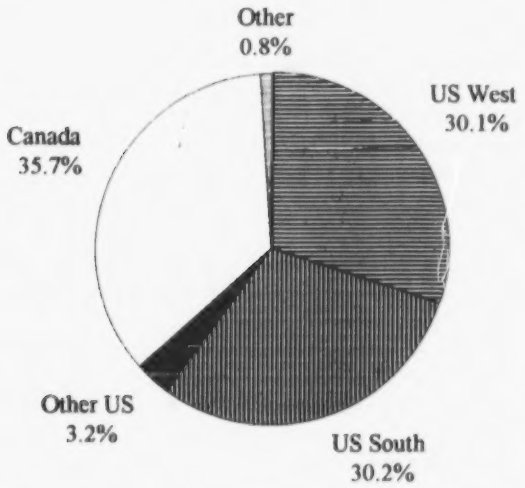
The principles are spelled-out in the agreement, but the practicalities of implementing the system are more difficult notably as regards assignment of the duty free allowance to individual companies (sawmills, remanufacturers and merchants) with a mutually acceptable monitoring system.

The agreement, which has a five-year life, has led to considerable confusion and market disruptions. While it is difficult to forecast the full effects of the trade agreement, the consensus is that it will blunt the Canadian industry's competitive edge in the United States once its duty-free export limit is reached. If the ceilings appear likely to be reached, Canadian exporters could be reluctant to use their quota for lower grades with a lower profit margin, leading to a surplus of utility and economy grades in domestic Canadian and overseas markets and a shortage of the same in the United States. There will undoubtedly be many distortions created in the market and if exports to the United States fall, British Columbia may try to shift towards alternative Asian markets while Québec may try to re-establish European markets. Québec producers were also affected by a 100% stumpage price increase made "on conservation grounds." *Widman's World Wood Review* of May, 1996 predicted Canadian lumber exports to the United States to fall by up to 9% due to the Canadian-United States settlement.

The graph of 1995 United States coniferous sawnwood consumption illuminates the changing *sources* of supply (graph 7). While 1995's imports of Canadian sawnwood were at a record high, the production from the United States West is at a record low. For the first time in 1995, the United States South outproduced the West and this trend may continue. If the United States consumption increases in 1996, which is contrary to forecasts but realistic in light of strong housing starts through mid-year, the United States might have to increase imports since domestic wood availability is limited in the short term by age, ownership and legislation.

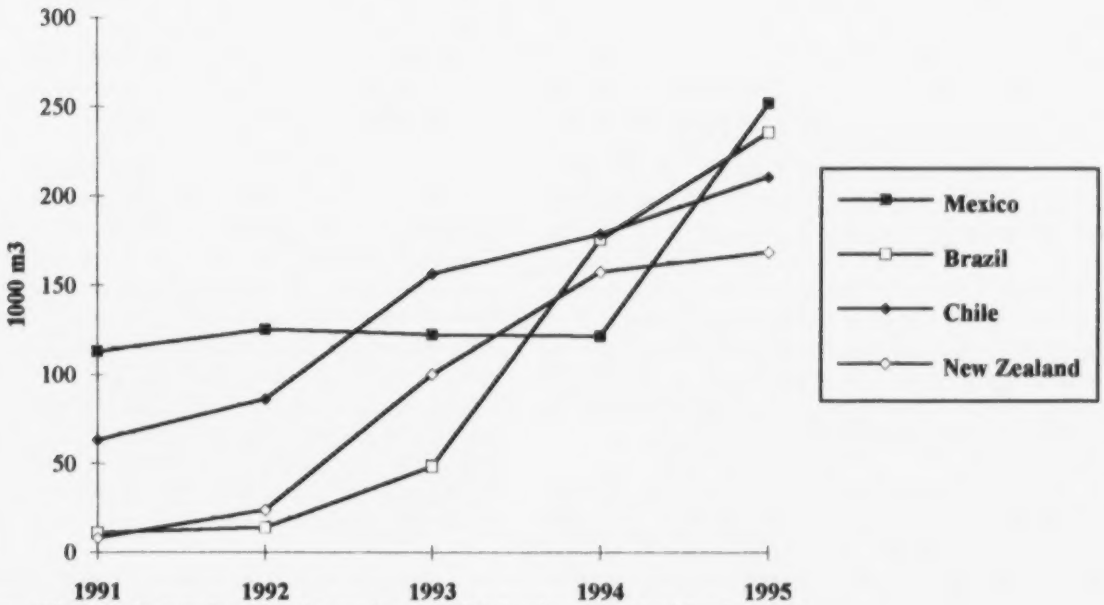
These forecasts seemed likely in the first quarter of 1996 when western United States mills, hit by a combination of continued reduced raw material availability, poor weather and a drop in chip revenues,

Graph 7
United States coniferous sawnwood supply sources, 1995



Source: "Statistical Roundup," American Forest and Paper Association, May 1996 and others.

Graph 8
United States coniferous sawnwood imports, 1991-1995



Source: "Wood products trade and foreign markets." USDA Foreign Agricultural Service, 1996.

decreased sawnwood output by 8% compared to same 1995 period. Meanwhile, the volume of non-Canadian imports of coniferous sawnwood, i.e. the remaining 2% by volume, to the United States from all other sources, for example radiata pine from Chile and New Zealand and pine from Brazil and Mexico, was forecast by *Wood Technology* to grow by 25 to 50% from 0.9 million m^3 in 1996 (graph 8). Likewise in Canada, British Columbia's harvests have been reduced by legislation and sawnwood production is forecast to decline by 0.7 million m^3 in 1996 which could be offset by increases in Québec.

Devaluation of the Mexican peso in December 1994, from 3.3 pesos per dollar to 6.0 in January 1995 and now 7.6 pesos per dollar has had drastic affects on cross border trade as shown by the following table:

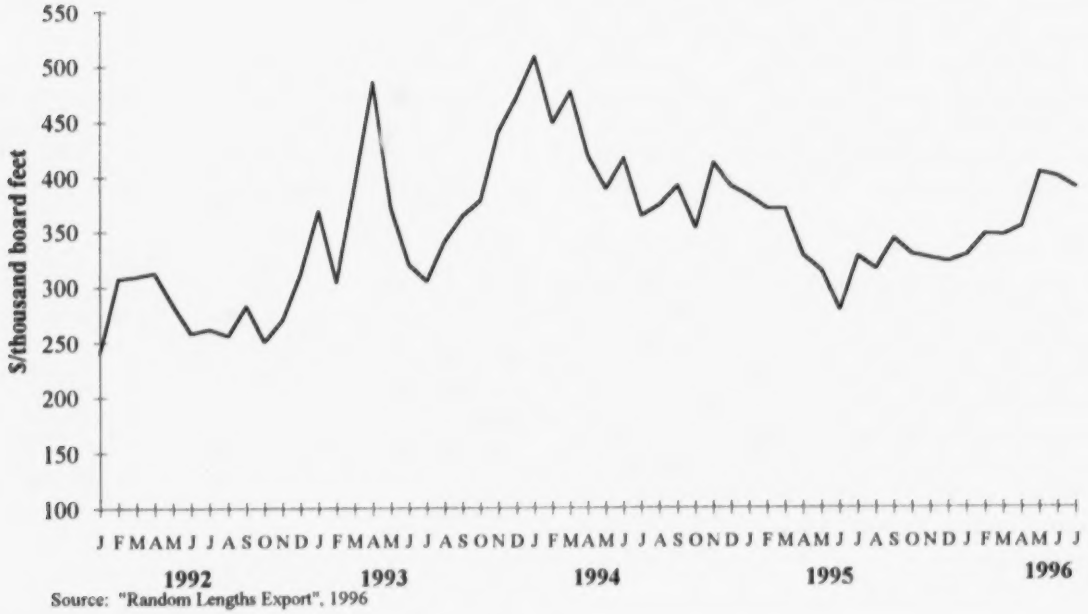
	1994 (1000)	1995 (1000)	% change (1995/1994)
Mexico's exports to United States			
Coniferous sawnwood (m^3)	121.3	250.6	106.6
Coniferous plywood (m^3)	2.4	16.2	574.0
Non-coniferous veneer (m^3)	134.3	1881.0	40.1
Coniferous veneer (m^2)	0.8	110.7	14355.4
United States exports to Mexico			
Coniferous sawnwood (m^3)	573.9	232.1	-59.5
Coniferous plywood (m^3)	150.9	34.2	-77.4

Source: *Wood Products International Trade and Foreign Markets*. USDA Foreign Agricultural Service, 1996.

The pulp market was partly responsible for the 18% fall in sawnwood *prices* from their peak in January 1994 until the summer of 1995 (graph 9). As reported in last year's *Review*, the strong demand for pulp in early 1995 led to acquisition of pulpwood and chips from all sources. Integrated producers ran sawmills "at any price" in order to generate chips to keep pulp mills running. Independent sawmills realized that residue revenues were as profitable as some sawnwood grades and they increased production too. In the western United States, chip prices increased from $95 per bone dry unit (equal to 2.4 green tons) in 1994 to $125 in November 1995 (with spot prices up to $190). Conversely in the southeastern United States, the equivalent price remained around $58-72 because mills are mostly integrated. Formerly pre-commercial thinning became economical with in-woods chipping operations.

As in Europe, North American sawnwood production was driven in early 1995 as much by a demand for residues for pulp production, as for sawnwood. Likewise this led to an oversupply in North America of construction-grade coniferous sawnwood and decreasing sawnwood prices into mid-1995. North American markets hit a two-year price low for coniferous sawnwood in June 1995 but they have risen since, by 19% in the last year, according to *Random Lengths Export*. The decline in production toward the end of 1995, in contrast with the relatively strong United States housing demand in early 1996, in

Graph 9
North American composite coniferous sawnwood prices, 1992 to 1996


$/thousand board feet
550
500
450
400
350
300
250
200
150
100
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J
1992
1993
1994
1995
1996

Source: "Random Lengths Export", 1996

concert with the threat of reduced Canadian imports, resulted in these sawnwood price rises. In the first half of 1995, some United States southern yellow pine (SYP) producers curtailed production and some ran at less than full capacity as low sawnwood prices and high log prices keep margins low. SYP log costs had escalated as sawmills, panel plants and pulp mills compete for the same log supplies.

According to the American Forest and Paper Association's *Statistical Roundup* of May 1996, United States domestic consumption of coniferous sawnwood increased 3.6% in the first quarter of 1996 over the same period in 1995, leading to a projection by the AF&PA to an annual demand of 114.4 million m^3 in 1996. However, despite the strong demand, production fell by nearly 5% and imports rose 15% over the same quarter in 1995. Imports of coniferous sawnwood rose steeply in the months leading up to the above-mentioned trade agreement as importers increased stocks before the trade agreement took effect. Demand in the first five months of 1996 was relatively strong in the United States and prices rose as depicted by the graph. Subsequently this led to an over-supply situation and at mid-year the prices were falling. Other importers had apparently taken the opposite approach and waited until this time of lower prices to purchase.

Many United States sawnwood and panel producers are coming under scrutiny from state and federal authorities for possible violation of laws limiting the emissions of volatile organic compounds (VOCs) which are released when coniferous wood is dried. VOC emissions are controlled because many are ozone precursors, that is they combine with nitrogen to form ozone. Some companies have chosen to pre-empt federal investigation by installing pollution control equipment, although other large corporations have paid millions of dollars in federal fines and then spent millions of dollars on pollution controls. In addition, some companies have been forced to pay state fines.

Just-in-time (JIT) purchasing became more popular after buyers bought heavily in early 1995 as prices were rising and then found themselves overstocked with high-priced sawnwood when demand (and price) decreased later in the year. JIT, where purchasers' stocks are minimized, has started in Japan too, in contrast to traditional trading patterns. Since many large Japanese companies lost money due to high valued stocks in 1995, buyers are apprehensive of taking risks, especially when sources of supply have been broadened.

Consumption of coniferous sawnwood in *Canada* was setback in 1995 by 23.6% to 12.5 million m^3, the lowest volume in over ten years. This was brought on by the 27% drop in housing construction in 1995, to 112,500 units. Overseas sales of coniferous sawnwood were estimated at 82.5 million m^3, up 11.4%, partly compensating for the loss in the domestic market.

(v) European developments

With the past years of reduced profits, 1995 began with hopeful signs of strong orders (due to diminished stocks from 1994's building spurt) and rising prices. But the market was partially driven by the demand for chips for pulp production, especially in some integrated mills. In fact, the overproduction of sawnwood in order to generate pulp chips had a downward influence on sawnwood prices and by mid-1995 sawmillers were wondering why order quantities were still strong, but the prices were falling. Shortly thereafter the demand dropped with the weakening construction demand. Voluntary and involuntary production decreases began by autumn.

Some Finnish mills cut production by up to 20% due to oversupply and falling prices. Initially whitewood (spruce and fir) production was reduced when its price fell, then the same happened with redwood (pine). As much of the international trade is conducted in Swedish krona, the weak krona meant less revenues for Finnish mills. Production of coniferous sawnwood was far above demand overall in 1995 and prices fell. In the first quarter of 1996, Finnish sales remained down from 1995.

Finnish export sales for the first quarter of 1996 as reproduced in *L'Echo des Bois*:

	1000 m^3	% change 1996/1995
United Kingdom	640	-13.5
Germany	380	-35.6
France	360	24.1
Holland	330	-10.8
Denmark	280	-33.3
Italy	125	-16.7
Sweden	40	-20.2
Other Europe	75	7.1
Other non-Europe	655	-7.7
Total	3075	-16.6

By mid-1996, sawn whitewood prices were stabilizing but redwood was continuing to fall, albeit slowly (graph 10). The additional downturn in production during the summer holidays was yet another possibility to reduce production and the oversupply. The Swedish krona had strengthened in respect to other currencies, and had gained 20% on the Finnish markka over the past year. This was advantageous for Sweden's competitors, like Finland, but not for Swedish sawmillers.

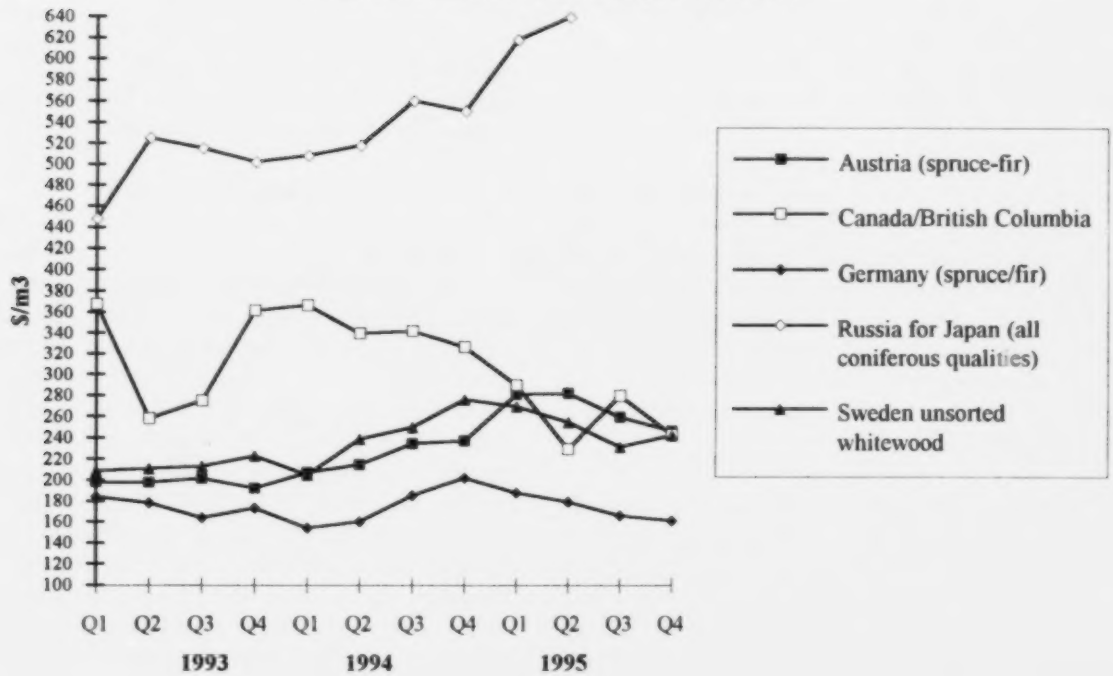
In 1995, Sweden's largest export markets were: the United Kingdom, 1.1 million m^3 (less than half of 1994's 2.7 million m^3); Germany 0.8 million m^3 (less than half of 1994's 1.8 million m^3); Denmark 0.7 million (about half of 1994's 1.3 million m^3). Sales outside of Europe increased by 14.4% to 0.8 million m^3. Shipments to Japan increased to 0.2 million m^3 and sales in the first quarter of 1996 to Japan were 0.1 million m^3. The fall in value of the Swedish krona assisted Swedish exporters in early 1995, but since then the krona has strengthened.

According to the Swedish Wood Exporters' Association, total sales in May, 1996, for delivery during 1996, were up 0.3% over the same period in 1995:

	1000 m^3	% change 1996/1995
United Kingdom	1484	16.4
Germany	880	-7.1
Denmark	632	-15.8
Holland	537	-13.8
Norway	287	-25.8
France	251	-2.3
Italy	200	3.1
Other Europe	631	-5.8
Japan	187	101.1
Other non-Europe	715	3.6
Total	5804	0.3

Sweden may begin sawnwood exports to the United States now that some mills have permission to saw and grade to Western Wood Products Association (WWPA) standards.

Graph 10
Prices of coniferous sawnwood, 1993 to 1995



The difference between Nordic and Russian prices shrunk as sawnwood prices fell in Europe from mid-1995 to mid-1996. Buyers without long-term commitments to Russian timber are leaning more heavily on Scandinavian suppliers. According to the *Timber Trades Journal*, the volumes coming out of Russia have stabilized. Eastern Russian exporters were concentrating on markets in Asia, such as Japan, Korea, Taiwan, and China. Some European importers, who have close links with Russian suppliers, have started to pre-pay for Russian sawnwood which enables producers to make up for their lack of working capital.

By mid-1996, the outlook for the German wood processing industry was reported by the *Timber Trade Journal* to be "bleak" despite the Cinet forecast for 1996 that the decreasing construction in the western *Lander*, by 4.4% to 477,000 houses, is more than made up by increases in the eastern *Lander*, by 51.9% to 158,000 houses, a total increase of 5.3% from 1995. But these overall increases may obscure true differences in demand.

French markets have had weak demand, due to slow construction and furniture markets in 1996 and after the first quarter of 1996, coniferous sawnwood prices were 9% below the average 1995 levels (but note that 1995 showed wide swings). A lack of orders has resulted in less production of parquet, framing timber and mouldings. As in other European countries, the renovation market now exceeds the new construction market in value. The forecast by the French Building Federation is for a continuation of this trend.

Belgium has been a strong market for North American exporters of Douglas fir, however in 1995, French exporters captured 60,000 m^3 of this market according to *Widman's World Wood Review*. The French Douglas fir resource is increasingly reaching maturity and exports could increase as long as the domestic market remains subdued. *Association France Douglas* predicts that in ten years, harvests will be at 3 million m^3 per year.

Austria experienced a double problem when in the midst of a downturn in the markets, heavy snows in December 1995 knocked down 200 million m^3 of pine and spruce trees with ages between 20 and 40 years. Some army engineer units were mobilized to clean up the damage and forest owners were eligible to receive government subsidies to hasten the clean-up before the risk of insect attack began.

Portuguese sawnwood industry production decreased in 1995 and stocks increased as export demand decreased. Still investments in the sawmilling sector in 1996 are forecast to increase by 10% over 1995. As an aside, the cork industry found light to moderate increasing global demand and will increase investments in 1996 by 21% over 1995 according to the Instituto Florestal. This contradicts reports of substitution by plastic and metal bottle stoppers. Perhaps substitution is taking place, yet demand for this important Portuguese forest product is increasing.

Additional trading options, using electronic data interchange (EDI) are being initiated. The Swedish Wood Exporters Association held a meeting in May 1996 to explain the numerous advantages and modalities of electronic trade between its members and their customers.

The ubiquitous computer has made a transition from an expensive word processing machine, to a communications machine via modems to link to ordinary telephone lines and thereby transmitting correspondence in the form of faxes or as electronic mail (e-mail) as well as linking to other computers, sites and databases via the World Wide Web. Some forest products companies and associations now have sites (home pages) on the World Wide Web, and some are conducting transactions in addition to communication and advertising.

As of the first day of 1995, the European Union expanded to 15 members with the inclusion of Austria, Finland and Sweden. The Union's forest resource area enlarged by approximately 75% to 129 million hectares.

(vi) Russian federation developments

Russian Federation exports of coniferous sawnwood fell sharply in 1995, by 20.1% to 4.3 million m^3. According to a report by Dr. Nikolai Burdin, Vice-Chairman of the Timber Committee and Director of the JSC Research and Design Institute on Economics, Production Management and Information of Forestry, Pulp and Paper and Woodworking Industry, trade patterns are changing away from exports to the former CMEA countries, especially Bulgaria, the Czech Republic, Hungary, Poland and Slovakia to their current main sawnwood importers, Germany, United Kingdom, Egypt, Italy and Finland. Exports to other CIS countries have been minimized as exporters of sawnwood seek hard currency markets.

While a softening in later 1995 of traditional markets affected all exporting countries, the Russian sawnwood industry was faced with additional

hardships. One constriction on Russian production and exports is a desperate shortage of working capital brought on by increasing taxes and penalties for late payment of taxes. Since the breakup of the former USSR, the system of central single state ownership and taxation has been changed; now 90% of the 30,000 logging and wood processing enterprises are privately owned and the tax burden has increased. Privatisation through dispersion of shares among members of collectives has led to further decreases in production efficiency due to lack of shareholders' managerial experience. Foreign ownership has been criticized for lack of attention to community social needs, for uncustomary, aggressive marketing practices and for wanting to exert too much control over their investments.

In addition, the higher costs for transportation have made uneconomic the traditional Siberian supply sources, from east of the Ural Mountains to 1000 kilometres from the Pacific coast. From 1991 to 1995 the price of timber transport has increased 6000 times. Coupled with other cost increases, working capital has become scarce. Exporters have been generally unsuccessful in acquiring prepayment for sawnwood and as a result, mills have been shut down for lack of logs. This vicious circle has severely hindered the Russian industry and its 2 million employees.

Recent reports from the sawmilling centre in Arkangelsk have mentioned many of the mills are closed and only those with foreign capital are operating. Prepayment for sawnwood by western importers is frequently requested to provide working capital to acquire adequate log supplies. In some cases, workers are said to have not been paid for 6 months. Throughout the country, especially where the higher transportation costs have stranded sawmilling complexes, bankruptcies are common. For those mills in operation, the problem of maintenance and replacement parts and equipment remains difficult.

The result of these problems in the forest and forest industry sector have accentuated the problems in domestic consumption which has fallen 58% from 1990, especially in forest-dependant communities. The production of furniture and wooden houses has decreased by 30%. To resolve these problems, there has been a new program created as advocated by the industry associations and a new federal department of 270 employees has been established in Moscow to address the reforms of the sector. The new national programme aims to increase, by the year 2000, the production of industrial wood to 182 million m^3, sawnwood to 53 million m^3, market pulp to 3 million tons and paper and paperboard to 7.1 million tons. However the major problem is how to increase investments.

One development was a memorandum of understanding signed between Roslesprom and the United States Eximbank in January, 1993 to support funding of large-scale equipment investments. The agreement guarantees financing of American forest and wood processing equipment.

To further assist the sector, there are now several forest banks, a forest insurance company and a forest pension fund.

C. Non-coniferous sawnwood

(i) Consumption

In 1995 *non-coniferous sawnwood consumption* increased in *Europe*, by 4.4% to 17.2 million m^3 (table 10 and graph 11). Although this was the first increase in two years, consumption is still well below the apparent consumption levels of the 1980s which were near 22 million m^3. France, the largest consumer in Europe, increased consumption by 15.9%, to reach 3.7 million m^3, near its record in 1991. And Italy's consumption increased by 3.0% to a record 2.7 million m^3 as export furniture markets gained strength. Other European countries had greater percentage increases, but on lower volumes. For example, Poland also increased consumption, by 37.7% to rebound to a record level of 0.9 million m^3. Hungary's decline in apparent consumption was brought about by record export levels of 0.5 million m^3 in 1995. Romania's consumption level increased after the huge drop last year and now rests at 0.7 million m^3, far below its nearly 2 million m^3 level 10 years ago.

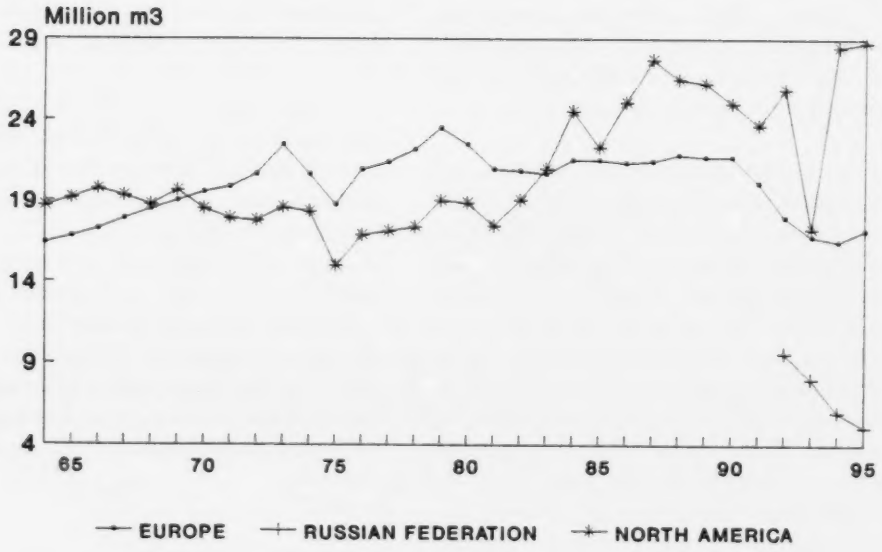
Possible constraints of consumption of non-coniferous sawnwood in Europe are the continued low demand for solid, non-coniferous furniture, flooring and cabinets and the corresponding substitution of composite products, like MDF, for solid wood. Industry spokesmen cite the substitution of wooden railroad ties/sleepers by concrete as an erosion of a critical market for low-grade cants. Another reason for the drop in apparent consumption of non-coniferous sawnwood is that increased value-added manufacturing and remanufacturing of sawnwood, sometimes at integrated manufacturing plants, is not reflected in the statistics.

Table 10
Non-coniferous sawnwood balance in Europe, the Russian Federation and North America, 1991 to 1995
(million m^3)

	1991	1992	1993	1994	1995 (prelim.)	Timber Committee estimates a/	
						for 1995	for 1996
EUROPE							
Production	16.65	14.03	13.29	13.22	13.94	14.00	14.21
Imports	6.39	7.21	6.44	6.37	6.55	6.19	6.19
Exports	2.93	3.27	2.95	3.13	3.31	3.07	3.13
Net trade b/	-3.46	-3.94	-3.49	-3.24	-3.24	-3.12	-3.06
Apparent consumption	20.11	17.97	16.78	16.46	17.18	17.12	17.27
RUSSIAN FEDERATION							
Production	...	9.68	8.09	6.08	5.29	5.08	6.08
Imports	...	-	0.01	0.01	0.01	0.01	0.01
Exports	...	0.06	0.04	0.07	0.20	0.20	0.30
Net trade b/	...	0.06	0.03	0.06	0.19	-0.04	0.06
Apparent consumption	...	9.62	8.06	6.02	5.10	4.89	5.79
NORTH AMERICA							
Production	25.11	27.26	18.71	30.06	30.44	30.50	29.90
Imports	1.12	1.24	1.47	1.59	1.59	1.62	1.61
Exports	2.56	2.62	2.92	3.17	3.26	3.46	3.56
Net trade b/	1.44	1.38	1.45	1.58	1.67	1.85	1.96
Apparent consumption	23.67	25.88	17.26	28.48	28.77	28.66	27.95

a/ At November 1995 session. The Committee's estimates for 1995 and 1996 have been adjusted to make them comparable with the historical (actual) data for 1991-1995.
b/ + = net exports; - = net imports.

Graph 11
Consumption of non-coniferous sawnwood, 1964 to 1995



North American non-coniferous sawnwood (hardwood lumber) consumption stayed at the level of 1994, which had advanced by 65% on 1993's low level. Although in 1995, Canada's consumption increased 16.7%, to 1.2 million m^3, the much greater United States consumption, 27.5 million m^3, remained constant and thus the continental total moved up only 1%.

It was reported that non-coniferous sawnwood consumption fell in the *Russian Federation* in 1995 by 15.4% over 1994 as production declined and exports increased. Since 1992 consumption of non-coniferous sawnwood is down by 47%.

(ii) Non-coniferous sawnwood production

European production of non-coniferous sawnwood increased by 5.5% in 1995 over 1994, the first time in seven years (table 11). The record level, in 1979, was at 19.8 million m^3, but by 1995 the production was down to 13.9 million m^3. The continent's largest producer, France, increased production by 11.8% to 3.8 million m^3. Most ofEurope's larger producers increased production, with the exception of Germany; as with coniferous sawnwood, since German statistics now cover additional products in the "sawnwood" category, the downward direction of change may be more accurate than the magnitude. Romania, once Europe's third largest producer, increased production by 4.7% in 1995 after a drop in 1994 of 46.3%; conversely, as an aside, Romania's production of non-coniferous fuelwood more than doubled in 1994 to 2.1 million m^3.

At mid-1996, the European Organization of the Sawmill Industry (OES) cited weakness in sawnwood and secondary markets of railroad sleepers/ties, construction sawnwood, parquet and furniture. Parquet which had been a strong market was said to be in a "free fall" due to competition from synthetic substitutes and lower-priced eastern European imports. According to a statement by the vice-president of the OES from June 1996, for the first 4 months of the year, earnings of sawmills were down by 15 to 30% in comparison to

Table 11
Production of non-coniferous sawnwood, 1992 to 1995

	1992	1993	1994	1995 (prelim.)	Change 1994 to 1995	
					Volume	Percent
			(1000 m3)			(%)
EUROPE :	14027	13292	13216	13941	725	5.5
of which :						
France	3300	2966	3400	3800	400	11.8
Turkey	1561	2062	1703	1829	126	7.4
Germany	1630	1164	1202	1175	-27	-2.2
Italy	1000	900	1000	1050	50	5.0
Poland	525	566	800	1050	250	31.3
Romania	1600	1600	860	900	40	4.7
Spain	782	558	558	558	...	...
Croatia	533	553	474	466	-8	-1.7
Portugal	200	194	426	426	...	...
Hungary	518	358	330	299	-31	-9.4
Belgium-Luxembourg	284	284	284	284	...	...
Austria	234	225	256	252	-4	-1.6
Other countries	1860	1862	1923	1852	-71	-3.7
Russian Federation	9675	8090	6080	5290	-790	-13.0
Canada	806	1123	1002	1093	91	9.1
United States	26456	17587	29054	29344	290	1.0
North America	27262	18710	30056	30437	381	1.3

the same period in 1995. Those sawmills sawing only oak, and which previously diversified into value-added markets, are said to be especially disadvantaged by the unfavourable situations in all their markets.

Production of non-coniferous sawnwood rose slightly in *North America*, by 1.3% to 30.4 million m^3. United States production volumes, which were corrected upwards for 1994, edged 1.0% higher in 1995 to reach 29.3 million m^3. In the Appalachian hardwood (non-coniferous) region of the United States, new band mills have been built and existing mills have expanded or improved technology in the last two years, primarily to serve the more profitable export market. The United States non-coniferous market has benefited from relatively high housing construction and its associated needs for non-coniferous flooring, moulding and furniture. On a smaller volume, the Canadian production rose 9.1%.

In the *Russian Federation* in 1995, production of non-coniferous sawnwood fell by 13.0% to 5.3 million m^3. Other countries in transition reporting production decreases were: the Czech Republic, down 4.3%; Slovakia down 27.0%; Hungary, down 31%; Croatia, down 1.7%; and the Former Yugolav Republic of Macedonia, down 30.4%. Other central and eastern European countries had increases in non-coniferous sawnwood in 1995: Poland, up 31.3%; Latvia up 75%; and Lithuania up 25%.

The Timber Committee in 1995, forecast continued growth in the ECE region of non-coniferous sawnwood production, and generally steady trade, thus increasing apparent consumption in 1996. The exception was the Russian Federation forecast of rising exports, to 0.7 million m^3 which is relatively small compared to their coniferous exports.

(iii) Trade of non-coniferous sawnwood--temperate zone

1995 was a year of contrasts as the start was positive with good demand from parquet and other construction related markets in the early part of the year, but then declining markets as the construction demand flagged. *European exports* of non-coniferous sawnwood increased by 5.7% in 1995 to a record 3.3 million m^3 (table 12). This increase came despite a drop in the largest European exporter, France, whose exports dropped 10.5%. Europe imported 2.8% more non-coniferous sawnwood in 1995 with the largest increases coming in Spain which increased imports by 37% to 0.7 million m^3 according to the UN Comtrade statistics. In France in the second half of 1995 and early 1996, except for cask wood, all the traditional markets for French non-coniferous sawnwood had declined: furniture, cabinetry, parquet and railroad sleepers/ties. In the United Kingdom, unlike other non-coniferous markets, the flooring market was strong in the spring of 1996 and exporters were reallocating their traditional shipments for Germany to the buoyant United Kingdom and Irish markets.

According to the American Hardwood Export Council (AHEC), non-coniferous sawnwood exports to Europe "consolidated" in 1995 and increased 1% in value. While worldwide United States export value increased 7.4%, the difference in Europe was a serious downturn in the furniture industry in Germany and Belgium. Italy suffered from a decrease in export markets. Some sawnwood purchases are now being replaced by cut-to-size dimension and furniture parts. The center of gravity of Europe's furniture industry is moving east as western Europeans invest in the countries in transition. Even without investments, central and eastern European countries have the advantages of generally lower priced labour and raw materials, and long experience in furniture manufacturing.

AHEC also notes that the stagnation in the European housing market has negatively affected the sawnwood trade. There is a tendency for more veneer exports, partly as a result of foreign investment and machinery in the United States non-coniferous industry. More species are being exported (for example, Europe is importing hard and soft maple, and tulipwood) but white oak still remains the preferred species. A rather important development has been greater acceptance of lower grades. While exporters can earn premiums for the highest grades, Europeans are finding economies in re-manufacturing the lower grades too.

The restrained European market has made buyers cautious to purchase ahead and importers are purchasing just-in-time (JIT). JIT buying shifts the burden and carrying cost of inventory to the seller.

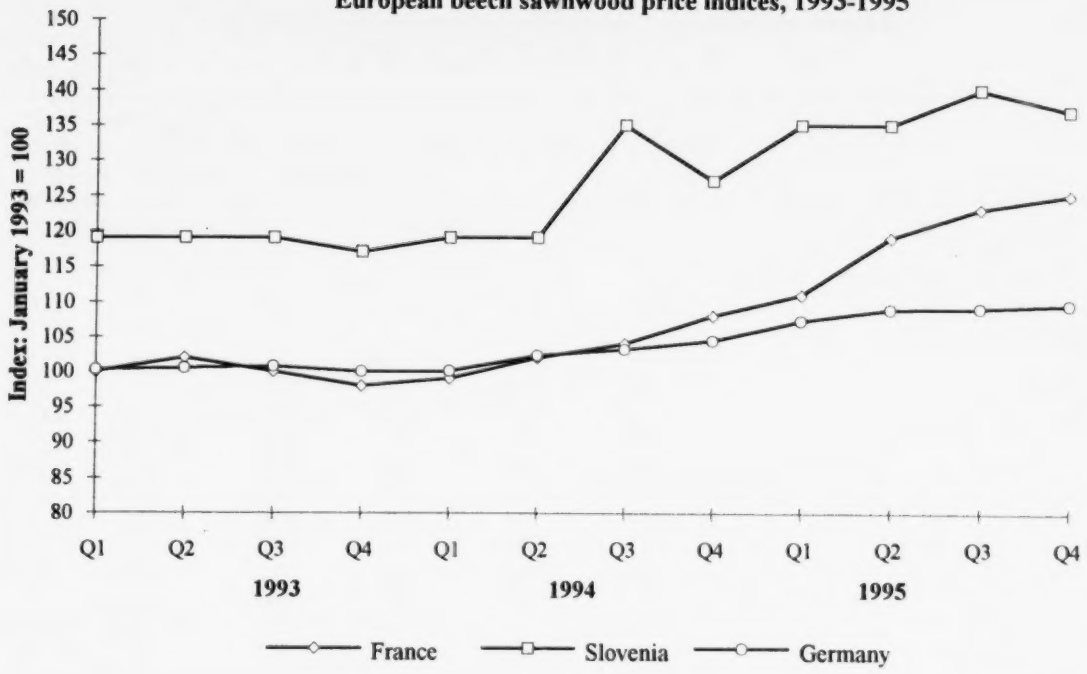
Non-coniferous sawnwood prices gradually rose in 1995 in Europe, but were said to have stabilized or moved slightly downward in 1996 (graph 12).

In March 1996, the OES said that the non-coniferous sawnwood market kept its strength for maple and cherry but sawmills were unable to recapture costs with price of sawn beech and oak. *Le Bois National* echoed the difficulties sawmills were having between the high cost of logs and the low prices for sawnwood, especially in Belgium where beech log prices moved up

Table 12
Exports and imports of non-coniferous sawnwood, 1992 to 1995

	1992	1993	1994	1995 (prelim.)	Change 1994 to 1995	
					Volume	Percent
			(1000 m3)			(%)
EXPORTS						
EUROPE :	3267	2947	3128	3307	179	5.7
of which :						
France	668	530	674	603	-71	-10.5
Hungary	226	142	153	506	354	231.9
Croatia	380	581	405	402	-3	-0.7
Germany	288	296	312	305	-7	-2.2
Romania	113	178	290	252	-38	-13.1
Poland	159	234	178	190	12	6.7
Belgium-Luxembourg	217	95	171	139	-32	-18.8
Netherlands	226	182	171	135	-36	-21.1
Austria	90	92	100	100	...	...
Italy	34	63	70	79	9	12.9
Other countries	866	555	605	596	-9	-1.5
Canada	426	647	803	769	-34	-4.2
United States	2197	2275	2368	2495	127	5.4
North America	2623	2922	3171	3264	93	2.9
IMPORTS						
EUROPE :	7208	6436	6371	6549	178	2.8
of which :						
Italy	1739	1649	1739	1777	38	2.2
Spain	737	583	525	719	194	37.0
Germany	819	630	676	692	16	2.4
Netherlands	786	785	705	631	-74	-10.5
Belgium-Luxembourg	945	946	602	532	-70	-11.6
France	554	406	456	491	35	7.7
United Kingdom	626	509	514	442	-72	-14.1
Austria	133	126	156	156	...	...
Portugal	164	99	104	138	34	32.7
Czech Republic	-	60	110	136	26	23.6
Other countries	705	643	784	835	51	6.5
Russian Federation	2	5	7	7	...	...
Canada	631	725	843	892	49	5.8
United States	613	740	742	698	-44	-5.9
North America	1244	1465	1585	1590	5	0.3
Japan	1591	1791	1635	1635	...	...

Graph 12
European beech sawnwood price indices, 1993-1995



20-25% in autumn 1994 and again 15-20% in autumn 1995. High salaries and a strong Belgian franc in comparison to other countries were offered as additional reasons for the current uncompetitiveness. The return of sawnwood from the countries of the former Yugoslavia is apparently affecting markets in 1996.

North America continued the trend of increasing exports, in 1995 by 2.9%, as United States exports climbed to 2.5 million m^3. Conversely, Canadian exports decreased to 0.8 million m^3.

The top ten countries for United States non-coniferous sawnwood exports in 1995 were:

	Million $	Million m^3	% of total volume
Canada	260	0.80	32
Japan	151	0.25	10
Taiwan	97	0.17	7
Italy	89	0.17	7
Mexico	70	0.15	6
Germany	68	0.14	6
United Kingdom	64	0.10	4
Belgium	57	0.10	4
Spain	52	0.09	4
Korea	50	0.09	4

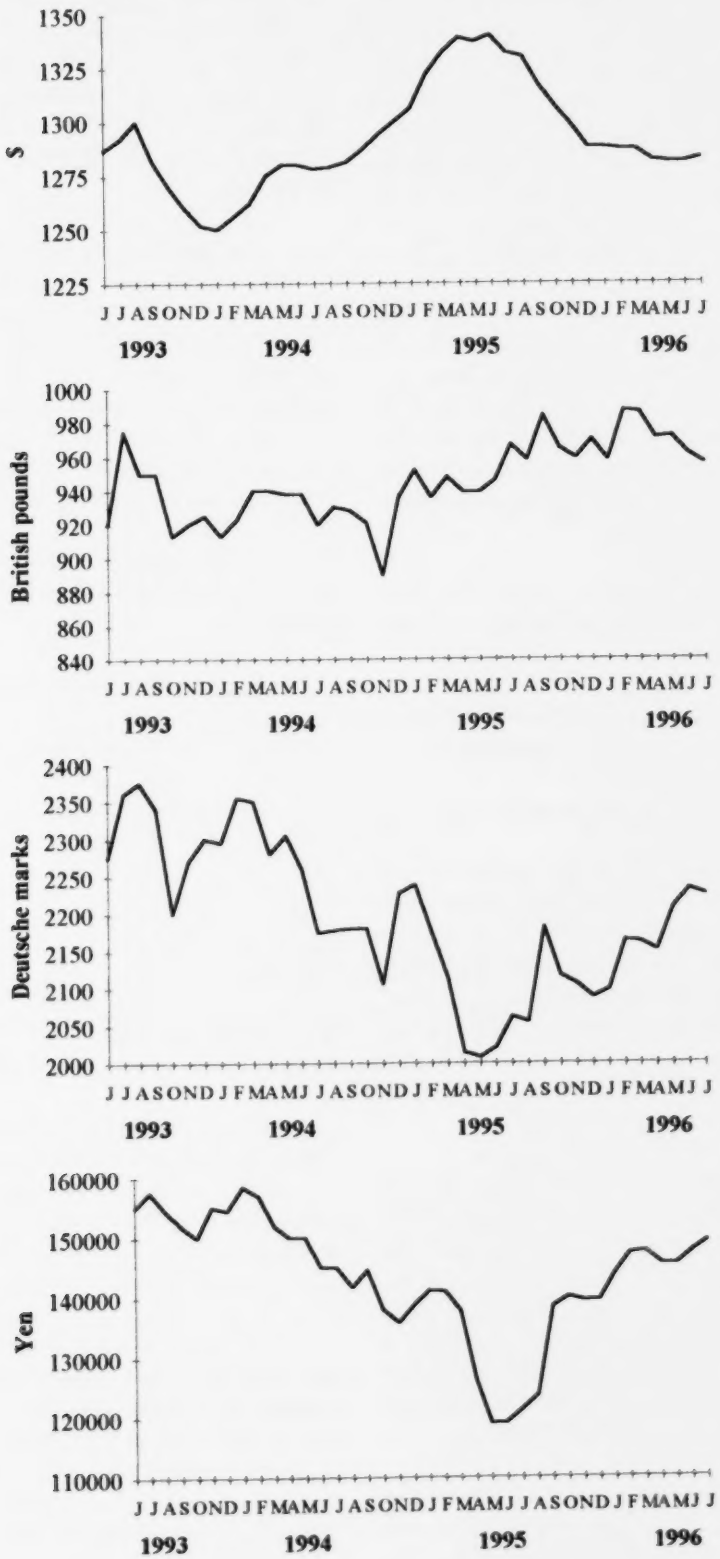
Source: *Wood Products: International Trade and Foreign Markets* by USDA Foreign Agricultural Service, 1996.

In the last year, i.e., since mid-1995, the United States index of prices of a "market basket" of non-coniferous export products has fallen. When the dollar is compared to other currencies which weakened over the year, like the Japanese yen and the Deutsch mark, the indexes show the higher cost to the respective importers. The indexes provided by the *Hardwood Review Export* take into account local product and species mix, freight rates and exchange rates (graph 13).

United States exported lighter colours of non-coniferous sawnwood in 1995: white oak up 8.7%, hard maple up 17%, soft maple up 18% partially substituting for scarcer and higher-priced hard maple, birch up 20% and hickory up 40%. Red oak sawnwood was the most exported species in volume, 637,906 m^3 versus white oak's 600,441 m^3, but it was second most in value $286 million versus white oak's $335 million.

The United States non-coniferous exporters felt the drop in demand in the second half of 1995 from Europe. Demand remained low in early 1996 which was perhaps beneficial as the winter and spring were not conducive to logging. Of interest is the change in taste for different species: lighter woods with less grain pattern are now fashionable, while darker woods like red oak and walnut have been losing favour, and their prices have subsequently fallen. The demand for sapwood-only hard maple has developed into a new market niche that is being quoted in the trade press as

Graph 13
United States non-coniferous export price indices in dollars, British pounds, Deutsche marks and Japanese yen, 1993 to 1996



"select" maple versus "unselected" maple which contains some darker heartwood. The difference in price ranges from 10 to 30% premium for all-white hard maple. In fact, for comparable grades in 1-inch (2.54 cm) thickness, hard maple sawnwood now sells for more than any of the oaks and is approaching the price for cherry and walnut, which are dropping. Diminished walnut and cherry sales on the domestic market are matched with slow sales in the export markets. According to *Hardwood Review Export*, in 1996 walnut export sales were 60% below the same period in 1995.

North American imports, consisting of cross-border trade and some tropical imports, were low and showed no change from 1994. Canada continued to import the most non-coniferous sawnwood from the United States in 1995 with a 3.8% increase to 0.79 million m^3, although not all of that sawnwood stays in Canada as United States exporters sometimes ship via Canada to Asian and European destinations to reduce freight costs.

United States prices moved down for non-coniferous sawnwood, perhaps reflecting a slight oversupply situation (graph 14).

The *Russian Federation* exports of non-coniferous sawnwood in 1995 nearly tripled to 0.2 million m^3.

(iv) Non-coniferous timber trade--tropical zone

This section expands from solely sawnwood and covers additional tropical timber, i.e., logs, veneer and plywood, from the perspective of the ECE region. Some of the following information was graciously made available by the International Tropical Timber Organization (ITTO) secretariat and the International Trade Center's Market News Service. Note that Japanese trade is the focus of the last section (F) in this chapter.

After declining over the last 5 years, Europe increased tropical roundwood imports in 1995, by 3.2% over 1994, to 2.3 million m^3. Unfortunately the Harmonized System does not permit distinguishing between sawlogs, veneer logs and pulpwood logs. Thus some volume may be high quality veneer logs, while another part may be eucalyptus pulp logs. In the United States, tropical log imports have diminished from 37,000 m^3 in 1993 to 3,000 m^3 in 1995.

A better way to look at the tropical trade is from the viewpoint of exporters in Asia Pacific, Africa and the Latin America/Caribbean regions (table 13). The major log exporting region remains the Asia Pacific although log exports have halved in the last five years as a result of increases in value-added processing and log export bans and tariffs. In Africa log exports have stabilized over the last five years but in South and Central America, mainly Brazil, log exports increased from 0.25 million m^3 in 1993 to 1.1 million m^3 in 1995. Some of that volume is eucalyptus pulp logs as the region's 5-fold increase in log exports in 1994 coincided with the upswing of world demand for pulpwood.

The goal for tropical timber producers continues to be to export more profitable value-added products rather than exports of primary logs and sawnwood. This manifests in the *Asia Pacific* region's decrease in sawnwood exports in 1995, by 12.6% from 1994 and a decline in veneer exports. Conversely plywood exports have increased in 1995, by 4.5%, as demand increased and trade arrangements were agreed between Malaysia, Indonesia and the major importing countries like Japan.

As an example, value-added products in Sabah Malaysia have more than offset the loss of log export revenues:

Exports from Sabah Malaysia, 1990-1995

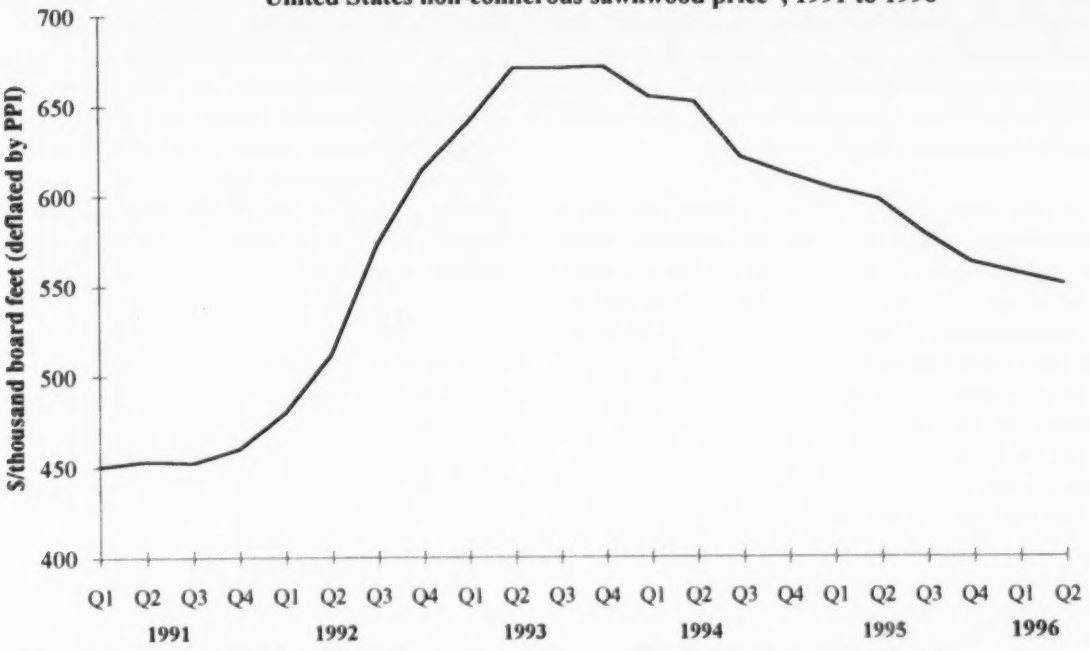
Year	Total Export M$ billion	Log %	Processed Timber %
1990	2.8	39.2	64.1
1991	2.9	32.5	66.6
1992	3.3	31	68.6
1993	3.7	1.4	98.3
1994	3.9	0	99.7
1995	3.3	0	99.9

M$ = Malaysian ringgits
Source: *Asian Timber*, March, 1996

Peninsular Malaysia has raised taxes on logs by 300% in 1996 and the harvest tax has also increased for certain species. In Sabah the cutting permits (allowable cut) have dropped from 6.9 million m^3 in 1995 to 5 million in 1996. Likewise in Sarawak, the allowable cut has dropped 10%.

In a new development reported in the International Trade Center's *Market News Service*, Malaysian logging companies are starting to offer substantial volumes of *African* logs to Far East buyers at attractive prices. This development will impact the tropical log trade because of the competition with Papau New Guinea and Solomon Islands prices.

Graph 14
United States non-coniferous sawnwood price*, 1991 to 1996



*Prices paid for 4/4, i.e., 1-inch or 2.5 centimeter thick, 1 common grade, Appalachian region red oak sawnwood. Deflated by United States producer price index with a 198 base. Source: "Hardwood Market Report."

Table 13
Tropical forest products exports[1], 1991-1995
(thousand m^3)

		1991	1992	1993	1994	1995[2]
Africa						
	logs	3,460	2,719	3,250	4,003	3,476
	sawnwood	1,020	1,081	1,028	1,211	1,135
	veneer	171	216	203	240	246
	plywood	53	66	70	82	91
Asia Pacific						
	logs	22,328	21,229	13,281	12,266	11,608
	sawnwood	6,187	6,434	6,181	4,999	4,369
	veneer	543	821	745	659	651
	plywood	10,295	11,544	12,220	11,899	12,437
Latin American/Caribbean						
	logs	110	85	251	1,052	1,050
	sawnwood	440	703	992	1,273	1,405
	veneer	46	116	200	96	111
	plywood	381	550	714	881	1,000
Total						
	logs	25,898	24,033	16,782	17,321	16,134
	sawnwood	7,647	8,218	8,201	7483	6,909
	veneer	760	1,153	1,148	995	1,008
	plywood	10,729	12,160	13,004	12,862	13,528

[1] Volumes differ from FAO statistics as ITTO coverage is approximately 90% of tropical exporters by volume. ITTO data were used to compare to their 1995 forecasts.

[2] Forecast made in 1995

Source: *Annual Review and Assessment of the World Tropical Timber Situation, 1995*, ITTO, 1996. Figures revised from those quoted in previous years due to addition of new ITTO members and revision of figures by members.

It is unclear what the acceptance of the new species and quality levels will be by Southeast Asian importers, but because Japanese investments in logging and processing companies in Africa are already established, familiarity with some species like okoume and sapelli exists. There are also reports of plans to export logs from Latin America to South East Asia.

In the first half of 1996, tropical log costs increased in Asia Pacific, partially in response to lower supply according to the *Timber Trade Journal*. However sawmillers have had difficulty translating higher raw material costs into higher sawnwood prices. Also holding back sawnwood price increases have been competition from African and South American sawnwood and temperate coniferous sawnwood. For example Korea imported almost 2 million m^3 of logs in the first quarter of 1996 and of that, 81% was coniferous, of which 77% was radiata pine.

Africa followed similar trends as the Asia Pacific region in 1995, but on a smaller scale, and decreased log and sawnwood exports while increasing veneer and plywood exports. African exports were said by *Bois et Forêts des Tropiques* to have benefited in 1994 and 1995 from reduced production and exports from the Asia Pacific. African exporters shipped to traditional South East Asian exporters' markets of Japan, Philippines and South Korea. Log exports are generally higher quality red woods, which are prized in many markets; thus they benefit from higher prices than mixed non-coniferous logs from Papau New Guinea and the Solomons Islands because of the better grades and demand. These exports have diverted supplies from traditional European markets and simultaneously exerted pressure to raise prices.

The 1994 exports of Cameroon, Gabon and Côte d'Ivoire were also boosted by devaluations of the CFA franc, but fell in 1995 according to ITTO forecasts. The devaluation made harvests economically feasible in remote forests. Still, according to the *Révue d'info mensuel* by the Fédération Française du Commerce du Bois, producers cited the following problems: high cost of transportation due to long distances between harvest sites and ports, obsolete and old equipment, lack of bank credit, high financing costs, administrative delays, low and insecure stocks at ports, increased port taxes, demands for ecolabels, and continued demands by some environmental non-governmental organizations for CITES Annex II listing, i.e., full protection from harvesting, of some primary export species.

As of 1 March 1996, Ghana introduced levies o exports of logs ranging from 15 to 30%, dependin upon species, of the FOB export value in order t maintain sustainable levels of log harvesting as well a to encourage its forest products sector to undertak more wood processing before export takes place. Som log species continue to be banned from export (Africa mahogany, African walnut, edinam, emeri, wawa plantation teak). Export levies were also introduced o air-dried sawnwood, from 10 to 30% depending upo the species in order to promote kiln-dried exports.

The Côte-d'Ivoire government banned log export with the aim of halting deforestation, despite the plea of the industry and exporters who asked that the ban b limited to only 35 exotic species which were previously exported. According to *Le Bois National*, the curren forest of 2.5 million hectares has shrunk from 7 millio hectares 30 years ago.

In *Latin America* veneer and sawnwood export also increased in 1995. Brazilian mahogany continue to rise in price due to environmentalists' pressure an reduced supply. In fact the *Timber Trades Journal* sai that price has become secondary to availability and tha trading volumes will continue to shrink and prices wil rise accordingly. Substitution by other non-coniferou species is occurring. In late July 1996, the Brazilia government announced a number of measures to protec the Amazonian forest, including forbidding cutting fo export of mahogany logs.

The Timber Committee Session in 199 estimated that non-coniferous log imports into Europ would decline slightly in 1995 and 1996, to 2.6 and 2. million m^3 respectively. Sawnwood apparen consumption was forecast to continue to decrease i 1995 and 1996 to the same level of 2.6 million m Tropical sawnwood imports into Europe ma consolidate after sliding down for the past years to level of 2.2 million m^3.

Tropical forest products production (log sawnwood and veneer) declined worldwide in 199 with the exception of plywood, but regional an product category differences exist (table 14). If th production figures are reduced by the exports, an imports of tropical wood into tropical countries ar assumed to be minimal, then an apparent domesti consumption can be calculated. From the table belo we can see that tropical timber producers in general di not increase domestic consumption from 1994 to 199 but rather exported an even greater share of thei decreased production.

Table 14
Tropical forest products production[1], 1991-1995
(thousand m^3)

		1991	1992	1993	1994	1995[2]
Africa						
	logs	8,842	8,051	9,097	10,836	9,660
	sawnwood	1,781	1,912	1,849	2,256	2,330
	veneer	302	316	340	360	365
	plywood	162	144	158	162	167
Asia Pacific						
	logs	99,785	103,395	96,259	91,674	89,640
	sawnwood	27,655	27,370	26,007	24,936	24,183
	veneer	952	1,512	2,323	2,242	1,952
	plywood	12,340	13,489	14,372	14,298	14,838
Latin American/Caribbean						
	logs	24,948	27,648	30,204	32,567	33,509
	sawnwood	10,196	11,776	12,074	13,064	13,498
	veneer	232	240	328	340	329
	plywood	1,502	1,646	1,967	2,240	2,330
Total						
	logs	133,575	139,094	135,560	135,077	132,809
	sawnwood	39,632	41,058	39,930	40,256	40,011
	veneer	1,486	2,068	2,991	2,942	2,646
	plywood	14,004	15,279	16,497	16,700	17,335

[1] Volumes differ from FAO statistics as ITTO coverage is approximately 80% of tropical exporters by volume. ITTO data were used to compare to their 1995 forecasts.
[2] Forecast made in 1995
Source: *Annual Review and Assessment of the World Tropical Timber Situation, 1995*, ITTO, 1996. Figures revised from those quoted in previous years due to addition of new ITTO members and revision of figures by members.

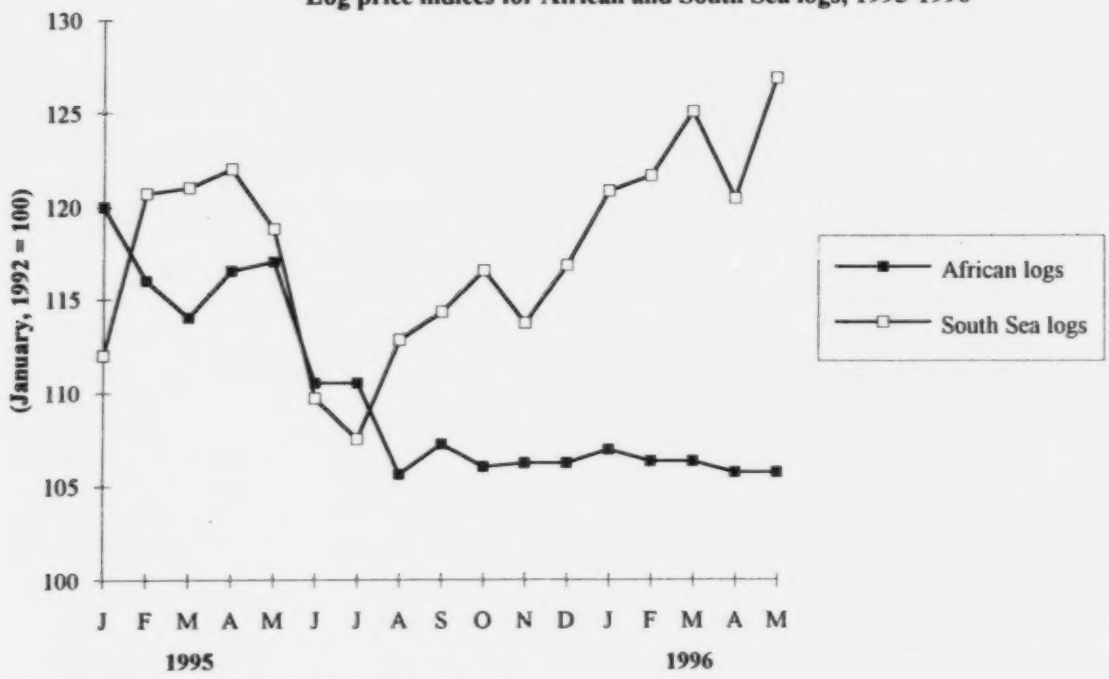
Apparent domestic consumption of tropical forest products, 1994-1995

	1994 1000 m^3	1995 1000 m^3	% change 1995/1994
Africa			
logs	6833	6184	-9.5
sawnwood	1045	1195	14.4
veneer	120	119	-0.8
plywood	80	76	-5.0
Asia Pacific			
logs	79408	78032	-1.7
sawnwood	19937	19814	-0.6
veneer	1583	1301	-17.8
plywood	2399	2401	3.0
Latin American/Caribbean			
logs	31515	32459	3.0
sawnwood	11791	12093	2.6
veneer	244	218	-10.7
plywood	1359	1330	-2.1
Total			
logs	117756	116676	-0.9
sawnwood	32773	33102	1.0
veneer	1947	1638	-15.9
plywood	3838	3807	-0.8

Prices of tropical logs and sawnwood, based upon the International Trade Centre's *Market News Service* indices, show divergent trends for the different regions. In the South Sea region, where log export bans and tariffs prevail, the prices of logs have escalated during the last year (graph 15). In early 1995, African log prices fell, partially in response to increased availability following the devaluation of the CFA franc, but they have been stable over the last 9 months.

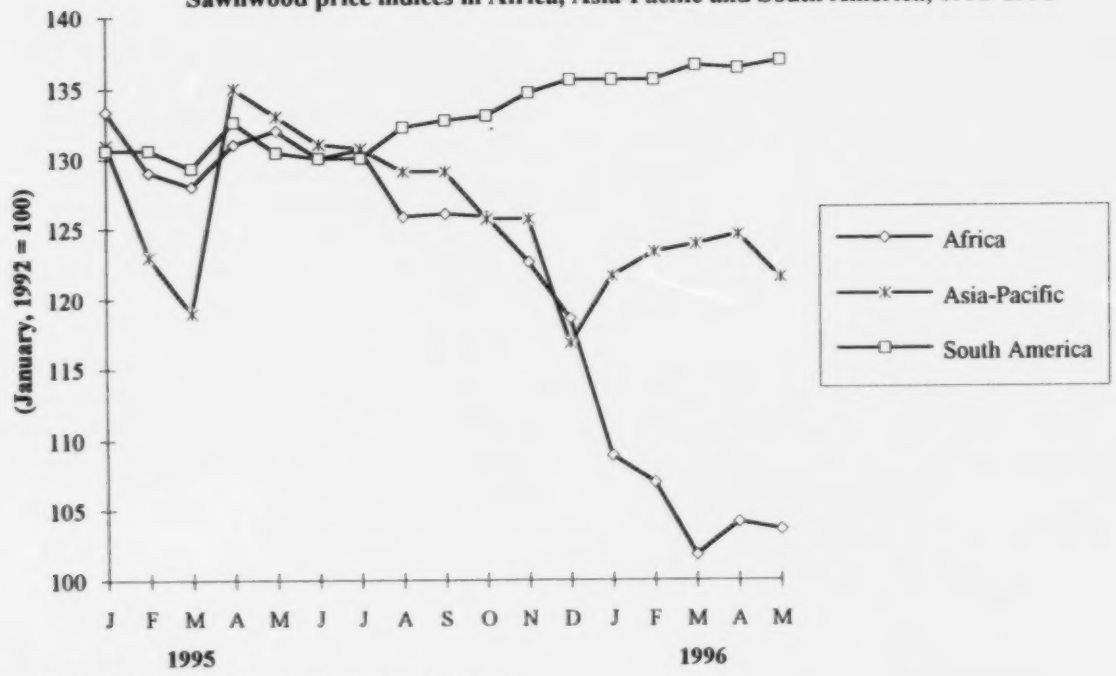
Sawnwood prices have fallen sharply in Africa over the last year, while South American sawnwood generally rose in price and Asian Pacific sawnwood gradually fell in 1995, but has been rising in 1996 (graph 16).

Graph 15
Log price indices for African and South Sea logs, 1995-1996



Source: "Market News Service", International Trade Centre, UNCTAD.

Graph 16
Sawnwood price indices in Africa, Asia-Pacific and South America, 1995-1996



Source: "Market New Service", International Trade Centre, UNCTAD.

D. Wood-based panels

In Europe and North America consumption of wood-based panels rose for the third year in a row (table 15). While in Europe, consumption of each panel rose every year, the rate of growth has been much faster for fibreboard than for the other panels. This is because of the very rapid increase in consumption of MDF which due to its performance characteristics and its raw material requirements has substituted for both particle board and sawnwood in a number of markets, especially furniture.

The higher prices in fibre markets in recent years, caused manufacturers to look for non traditional sources. Formerly marginal timber stands became attractive and alternative species were used: rubberwood in South East Asia and aspen in North America, as well as straw and other agricultural residues. Technology has also increased productivity of fibre yields.

The average size and the installation cost of the wood-based panel mills have been growing steadily so that it is becoming increasingly difficult to match capacity with trends in real demand. As a result, the panel sector, but especially MDF has suffered from structural overcapacity for some time, with corresponding effects on prices, which have tended to fall despite strong demand and rising consumption.

In Europe, fibreboard's share of total panel consumption is rising steadily and reached 14.2% in 1995. In North America the share of plywood, the oldest panel in the total, has been dropping steadily and is now under 42%.

European standards for wood-based panels CEN/TC 112 are to come into force as of 1 January 1997, which will replace existing domestic standards and have a positive impact on trade.

Table 15
Apparent consumption of wood-based panels (excluding veneer sheets) in Europe, the Russian Federation and North America, 1991 to 1995

	Volume					Percent of total	
	1991	1992	1993	1994	1995 (prelim.)	1991	1995 (prelim.)
	(million m3)					(%)	
EUROPE							
Particle board	28.24	27.12	27.34	27.93	28.42	73.7	70.4
Plywood	5.77	6.00	5.99	6.19	6.21	15.1	15.4
Fibreboard	4.29	4.38	4.47	4.66	5.72	11.2	14.2
Total	38.30	37.50	37.80	38.78	40.35	100.0	100.0
Change on previous year							
- Volume		-0.80	0.30	0.98	1.57		
- Percent		-2.1	0.8	2.6	4.0		
former USSR							
Particle board	...	4.53	3.90	2.61	2.08	...	69.1
Plywood	...	1.04	0.59	0.33	0.33	...	11.0
Fibreboard	...	1.52	1.08	0.67	0.60	...	19.9
Total	...	7.09	5.57	3.61	3.01	...	100.0
Change on previous year							
- Volume		...	-1.52	-1.96	-0.60		
- Percent		...	-21.4	-35.2	-16.6		
NORTH AMERICA							
Particle board	14.37	16.82	18.10	19.05	20.31	37.7	44.9
Plywood	18.38	18.81	18.86	19.19	18.89	48.3	41.7
Fibreboard	5.32	5.50	5.65	5.91	6.06	14.0	13.4
Total	38.07	41.13	42.61	44.15	45.26	100.0	100.0
Change on previous year							
- Volume		3.06	1.48	1.54	1.11		
- Percent		8.0	3.6	3.6	2.5		

(i) Particle board

Just before sending to press the present *Review*, 1995 production figures for 9 European countries (not received from national correspondents) were updated, according to the *Annual Report 1995/1996* of the European Federation of Associations of Particle Board Manufacturers (FESYP), but changes could not be made in the corresponding tables. This group of 9 countries, which includes major producers such as Germany, the United Kingdom and Austria, increased the European total by 660,000 m^3 to above the 30 million m^3 mark and brought-up both apparent consumption and production by 4.1%. Production decreases took place in Belgium where they were marginal and more important in Portugal, -14% mainly due to depressed export markets. The following table shows the revised production figures:

	1994 1000 m^3	1995 1000 m^3	change 1994 to 1995 Volume	%
EUROPE	28867	30038	1171	4.1
of which:				
Germany	8639	8900	261	3.0
France	2567	2777	210	8.2
Italy	2202	2450	248	11.3
Belgium	2400	2385	-15	-0.6
United Kingdom	1803	2107	304	16.9
Spain	1730	1725	-5	-0.3
Austria	1666	1709	43	2.6

Source: *FESYP Annual Report*, 1995/1996

Apparent consumption of particle board increased in Europe by 4.1%, in markets characterised by a slowdown of activity in end use sectors during the second semester of 1995 (Table 16 and graph 17). The result was a very competitive market with prices under pressure, despite the lower raw material and glue costs, which had eased down to more normal levels since 1994. The fallback of demand during the second half of 1995, resulted in important building-up of stocks in major producing countries. By the end of 1995 particle board stocks in Germany attained 1 million m^3, from the regular 600,000 m^3 level. According to the FESYP report, its member countries saw their stocks increase on average by one third.

Both France and the United Kingdom recorded growth in exports of over 20% because of the installation of new capacity (table 17). According to the preliminary data supplied, Europe was net exporter of nearly 1 million m^3 of particle board in both 1994 and 1995. Italy and Spain are the main countries exporting outside Europe. Much of this went to South East Asia, mainly Japan, and the Middle East.

Russian production and consumption of particle board continued to fall, although exports increased slightly.

In North America particle board capacity is also expanding, although at a slower pace than MDF and OSB. Apparent consumption (excluding OSB) was 9.95 million m^3 or 6.7% higher than in 1994. Canadian exports, mostly to the United States, increased by 234,000 m^3 to 1.2 million m^3.

(ii) Oriented strand board

OSB production in Europe is increasing very rapidly, +44% in 1995 to 300,000 m^3. A new mill has started production in 1996 in Ireland and another one is being completed in Luxembourg, thus doubling European production capacity.

The rapid growth of OSB capacity in North America has continued, but 1995 consumption in the United States, although +10.5% to 10 million m^3, has not followed this steep rate. The excess offer has been determinant in the more than 20% price drop from 1994. As new capacity is planned to come on stream on the coming years (7 to 9 million m^3 by the year 2000), the APA--the Engineered Wood Association is designing plans to increase yearly sales by 3 million m^3, of which more than 50% to foreign markets. As in the case of MDF, producers are concentrating on better quality to meet consumer needs.

Canadian exports have continued to increase, to the United States by +25.5% to just over 3 million m^3, and to new markets in Japan and South East Asia, with sizes meeting local specifications for use mainly in flooring underlayment.

Table 16
Particle board (wood and non-wood) balance in Europe, the Russian Federation and North America, 1991 to 1995
(million m^3)

	1991	1992	1993	1994	1995 (prelim.)	Timber Committee estimates a/	
						for 1995	for 1996
EUROPE							
Production	27.89	26.82	27.35	28.87	29.38	29.82	30.61
Imports	6.67	6.66	6.26	6.75	6.90	6.92	6.84
Exports	6.32	6.36	6.27	7.69	7.86	7.93	8.36
Net trade b/	-0.35	-0.30	0.01	0.94	0.96	1.00	1.52
Apparent consumption	28.24	27.12	27.34	27.93	28.42	28.81	29.09
RUSSIAN FEDERATION							
Production	...	4.55	3.94	2.63	2.20	2.46	2.81
Exports	...	0.02	0.04	0.02	0.12	0.18	0.19
Apparent consumption	...	4.53	3.90	2.61	2.08	2.28	2.62
NORTH AMERICA							
Production	14.83	17.26	18.52	19.16	20.61	19.09	19.19
Imports	1.48	2.20	3.05	3.79	4.50	4.16	4.35
Exports	1.94	2.64	3.47	3.90	4.80	4.14	4.14
Net trade b/	0.46	0.44	0.42	0.11	0.30	-0.01	-0.20
Apparent consumption	14.37	16.82	18.10	19.05	20.31	19.11	19.40

a/ At November 1995 session. The Committee's estimates for 1995 and 1996 have been adjusted to make them comparable with the historical (actual) data for 1991-1995.
b/ + = net exports; - = net imports.

Graph 17
Consumption of particle board, 1964 to 1995

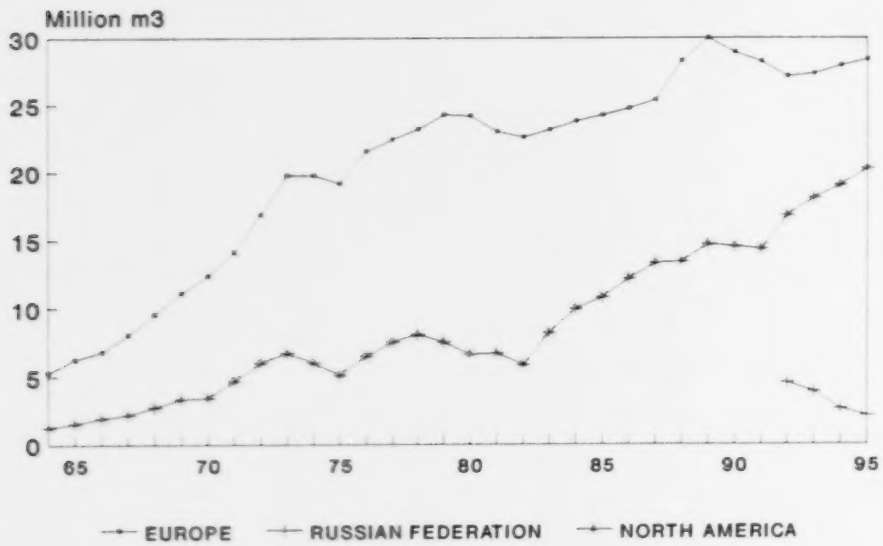


Table 17
Production and trade of particle board (including non-wood), 1992 to 1995

	1992	1993	1994	1995 (prelim.)	Change 1994 to 1995	
					Volume	Percent
			(1000 m3)			(%)
PRODUCTION						
EUROPE :	26816	27353	28867	29378	511	1.8
of which :						
Germany	7451	7961	8639	8639	...	...
France	2668	2461	2567	2777	210	8.2
Italy	2265	2250	2202	2450	248	11.3
Belgium-Luxembourg	2350	2350	2400	2400	...	...
United Kingdom	1737	1756	1803	1803	...	...
Spain	1680	1660	1730	1725	-5	-0.3
Austria	1606	1594	1666	1666	...	...
Poland	1008	1129	1336	1488	152	11.4
Turkey	947	883	898	857	-41	-4.6
Portugal	630	575	757	757	...	...
Sweden	581	597	609	632	23	3.8
Czech Republic	560	501	536	570	34	6.3
Switzerland	762	742	656	564	-92	-14.0
Finland	354	439	477	475	-2	-0.4
Other countries	2217	2455	2591	2575	-16	-0.6
Russian Federation	4552	3941	2626	2200	-426	-16.2
Canada	3557	4173	4493	5193	700	15.6
United States	13707	14351	14664	15417	753	5.1
North America	17264	18524	19157	20610	1453	7.6
EXPORTS						
EUROPE :	6360	6273	7690	7862	172	2.2
of which :						
Belgium-Luxembourg	1775	1404	1872	1942	70	3.7
Germany	980	1026	1320	1278	-42	-3.2
France	760	646	913	1103	190	20.9
Austria	871	891	909	909	...	...
Switzerland	464	480	427	376	-51	-11.9
Portugal	393	328	455	363	-92	-20.2
United Kingdom	101	94	190	243	53	27.9
Czech Republic	30	85	220	230	10	4.5
Finland	103	195	200	224	24	12.0
Other countries	884	1124	1184	1194	10	0.9
Russian Federation	21	35	18	120	102	552.2
Canada	2064	2968	3447	4302	855	24.8
United States	574	501	457	496	39	8.5
North America	2638	3469	3904	4798	894	22.9
IMPORTS						
EUROPE :	6664	6260	6748	6896	148	2.2
of which :						
Germany	1808	1732	1713	1662	-51	-3.0
United Kingdom	1193	1165	1167	1190	23	2.0
France	733	661	708	751	44	6.2
Netherlands	704	604	755	721	-34	-4.5
Italy	444	355	346	340	-6	-1.7
Spain	387	322	328	339	11	3.4
Denmark	271	270	316	306	-10	-3.2
Sweden	137	158	186	293	107	57.5
Other countries	986	993	1229	1026	-203	-16.5

(iii) Fibreboard

Production of hardboard in Europe was down from 1994 to an estimated 1.4 million m^3, the industry is working at low levels of capacity utilization (table 18 and graph 18). Production of insulating board has increased by 9.2% in 1995 to 868,000 m^3, but not fully recuperating from the important drop in 1994 (table 19).

Apparent consumption of both hardboard and insulating board in North America, decreased slightly from 1994 levels. The increases in production in the United States were offset by production cutbacks in Canada.

Table 18
Fibreboard balance in Europe, the Russian Federation and North America, 1991 to 1995
(million m^3)

	1991	1992	1993	1994	1995 (prelim.)	Timber Committee estimates a/	
						for 1995	for 1996
EUROPE							
Production	4.20	4.06	4.55	5.00	6.10	5.28	5.70
Imports	1.97	2.27	2.09	2.44	2.58	2.70	2.69
Exports	1.88	1.95	2.17	2.78	2.96	3.01	3.11
Net trade b/	-0.09	-0.32	0.08	0.34	0.38	0.31	0.43
Apparent consumption	4.29	4.38	4.47	4.66	5.72	4.97	5.28
RUSSIAN FEDERATION							
Production *	...	1.57	1.16	0.77	0.75	0.77	0.87
Exports	...	0.05	0.08	0.10	0.15	0.09	0.10
Apparent consumption	...	1.52	1.08	0.67	0.60	0.68	0.77
NORTH AMERICA							
Production	5.56	5.93	5.98	6.27	6.39	6.34	6.49
Imports	0.45	0.45	0.55	0.70	0.76	0.69	0.71
Exports	0.69	0.88	0.88	1.06	1.09	1.06	1.11
Net trade b/	0.24	0.43	0.33	0.36	0.33	0.37	0.40
Apparent consumption	5.32	5.50	5.65	5.91	6.06	5.97	6.09

a At November 1995 session. The Committee's estimates for 1995 and 1996 have been adjusted to make them comparable with the historical (actual) data for 1991-1995.
b + = net exports; - = net imports.

Graph 18
Consumption of fibreboard, 1964 to 1995

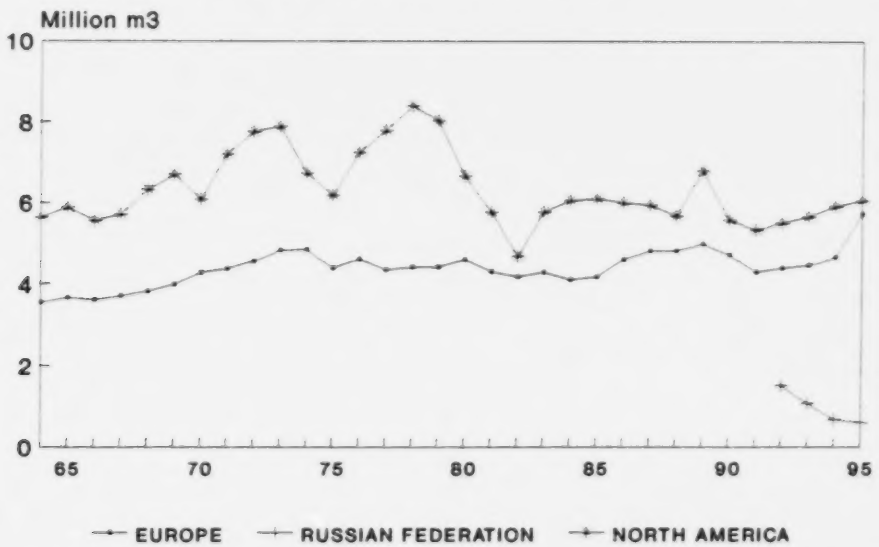


Table 19
Production and trade of fibreboard, 1992 to 1995

	1992	1993	1994	1995 (prelim.)	Change 1994 to 1995 Volume	Change 1994 to 1995 Percent
			(1000 m3)			(%)
PRODUCTION						
EUROPE :						
Hardboard a/	3193	3631	4209	5232	1023	24.3
Insulating board	871	915	795	868	73	9.2
Total	4064	4546	5004	6100	1096	21.9
of which :						
Italy	250	255	222	915	693	312.2
Germany	588	684	854	854	...	...
Poland	472	464	515	700	185	35.9
Spain	400	480	550	600	50	9.1
France	425	450	550	560	10	1.8
United Kingdom	156	318	400	400	...	...
Portugal	300	290	336	336	...	...
Ireland	162	162	180	240	60	33.3
Sweden	163	134	126	209	83	65.9
Other countries	1148	1309	1271	1286	15	1.2
Russian Federation	1565	1158	767	754	-13	-1.7
Canada	672	750	827	730	-97	-11.7
United States	5254	5231	5445	5660	215	3.9
North America	5926	5981	6272	6390	118	1.9
EXPORTS						
EUROPE :	1948	2174	2779	2955	176	6.3
of which :						
Italy	209	361	427	400	-27	-6.3
Poland	102	116	196	380	184	93.9
France	273	248	311	320	9	2.9
Germany	217	212	325	311	-14	-4.3
Portugal	256	239	277	250	-27	-9.7
Spain	211	304	273	248	-25	-9.0
Other countries	681	694	970	1046	76	7.8
Russian Federation	49	78	98	150	52	53.1
Canada	274	253	360	365	5	1.4
United States	605	625	700	726	26	3.7
North America	879	878	1060	1091	31	2.9
IMPORTS						
EUROPE :	2274	2091	2441	2579	138	5.6
of which :						
Germany	346	330	408	395	-13	-3.2
United Kingdom	391	374	341	341	...	...
Italy	220	206	229	313	84	36.7
Netherlands	219	207	249	287	38	15.3
Belgium-Luxembourg	150	125	201	191	-10	-5.0
Spain	132	114	125	132	7	5.6
France	95	83	109	124	15	14.2
Canada	147	186	164	157	-7	-4.3
United States	304	363	531	599	68	12.8
North America	451	549	695	756	61	8.8

a/ Including medium density fibreboard.

(iv) Medium density fibreboard

According to the Euro MDF Board, production in 1995 further increased by 9.8 % to 3.8 million m^3. As new capacity came on stream in Europe (Germany, France, Luxembourg, Italy and Ireland), prices have dropped by 30% on average, and even higher reductions have taken place in the first semester of 1996. Prices for thin MDF, however, are reported to have stayed stable. Japan and other countries in the Far East, where prices are also under pressure, have continued to absorb important volumes, estimated at 12% of European production. Capacity in this region is also growing rapidly.

MDF capacity in North America, is also increasing rapidly. Present capacity is estimated at 6.4 million m^3 and a supplementary capacity of more than 2 million (mostly in Canada) is announced for 1996 and 1997. Apparent consumption in 1995 was 8.4% higher than in 1994 to 2.3 million m^3 and present production levels are estimated to meet current demand. As new capacity comes on stream, weaker prices are expected through 1998.

In their efforts to find new markets, manufacturers are increasingly designing their products to meet more and more the specific needs of consumers and to finding new applications. The characteristics of MDF and the flexibility in production technology makes this task possible. For example, with the use of exterior-grade adhesives, MDF is increasingly being used in exposed, wet conditions. World demand for MDF, which is estimated to be some 5 million m^3 below the present 19 million m^3 capacity, is expected to continue to increase at an important rate of 15 to 18% a year, and according to some manufacturers will reduce the margin between supply and demand in a few years' time.

(v) Plywood

Plywood production in the United States dropped by nearly a quarter of a million m^3 or 1.4%, as a result of diminishing resources and capacity in the west (table 20). In Canada production was stable due to export markets, while apparent consumption fell by 14% as a consequence of the depressed building sector. The Canadian plywood industry, mostly concentrated in British Columbia, is well known for the quality of its products and for its good marketing policy. Its objective is to maintain the current production levels, while increasing the share of export markets (roughly 50% to Europe and 50% to Japan). However, supply difficulties for high grade peeler logs and above all competition from OSB, which has very similar performance with a cheaper raw material, means that long-term expansion in production and consumption is not expected. United States plywood exports, mainly southern yellow pine, increased slightly by 3.6% and are expected to follow the same trend in 1996; the main markets are Europe (40%), Latin America and the Far East.

North American plywood prices have been influenced by the activity of the end use sectors, but also by developments in the structural panel sector. The rapid growth of OSB capacity (much faster than demand) has pushed plywood prices down, which is expected to continue in 1996.

New coniferous plywood export capacity presently being installed in Finland (2 mills at 500 000 m^3 total capacity) and growing OSB production in Europe will increase competition for the North American import share of European markets.

Apparent consumption of plywood in Europe remained unchanged (table 21 and graph 19). Imports from Indonesia attained higher levels from 1994, when the European quota set by APKINDO was reduced by 40%; in 1995, they were close to 820 000 m^3, main importers being France, Germany and the United Kingdom. Exports from Finland were up by 4.1% to 668,000 m^3, Germany absorbed this increase.

Despite depressed prices, Russian plywood exports were 4.9% higher than in 1994 and now reach almost 600,000 m^3.

South East Asia non-coniferous plywood

In 1995 markets were characterised by decreasing prices, a declining offer and a weak demand with small volumes traded during most of the year reflecting the low level of activity in importing countries and imports from China depending on foreign currency availability. Indonesian exports have fallen also influenced by problems of log supply. Malaysia has increased exports by 30% to 3.3 million m^3, thus somewhat compensating Indonesia's lower volumes, which were -2.5% to 8.6 million m^3, down from the 1992 high of 9.8 million m^3. Combined exports from Indonesia and Malaysia in 1995 to Europe were 925,000 m^3 and to the United States were 922,000 m^3.

Indonesia and Malaysia made efforts during 1995 to maintain prices at higher levels, without success.

Table 20
Production and trade of plywood, 1992 to 1995

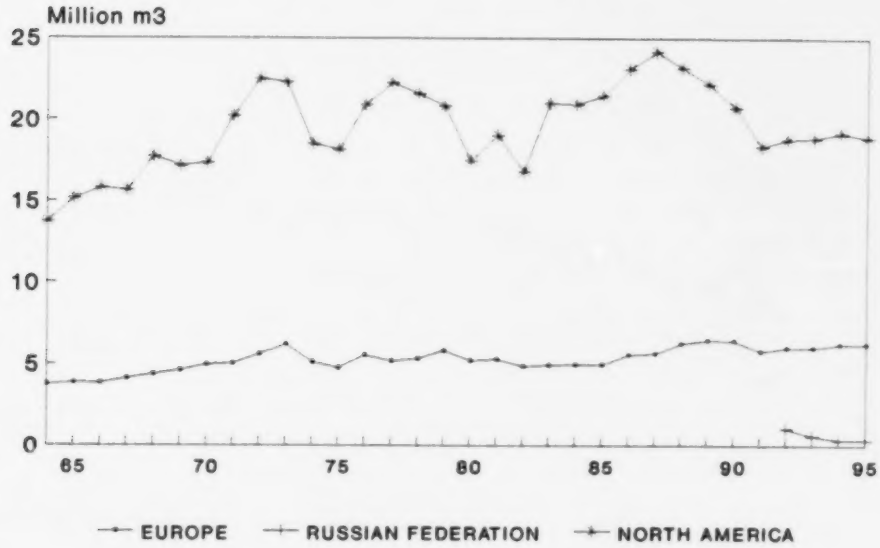
	1992	1993	1994	1995 (prelim.)	Change 1994 to 1995	
					Volume	Percent
			(1000 m3)			(%)
PRODUCTION						
EUROPE :	2979	3299	3672	3486	-185	-5.0
of which :						
Finland	462	621	700	759	59	8.4
France	484	460	594	560	-34	-5.7
Italy	427	415	427	418	-9	-2.1
Germany	429	416	397	397	...	...
Spain	120	200	210	210	...	...
Austria	150	150	150	150	...	...
Poland	132	133	124	115	-9	-7.3
Sweden	55	73	85	110	25	29.4
Israel	109	109	109	109	...	...
Romania	100	100	97	83	-14	-14.4
Other countries	511	622	779	575	-203	-26.1
Russian Federation	1268	1042	890	920	30	3.4
Canada	1838	1824	1834	1841	7	0.4
United States	17109	17093	17380	17140	-240	-1.4
North America	18947	18917	19214	18981	-233	-1.2
EXPORTS						
EUROPE :	1573	1720	1972	1897	-75	-3.8
of which :						
Finland	348	542	627	668	41	6.5
France	228	252	250	238	-12	-4.8
Austria	119	129	158	158	...	...
Germany	122	110	131	153	22	16.8
Italy	90	104	108	96	-12	-11.1
Other countries	666	583	698	584	-114	-16.4
Russian Federation	226	464	568	596	28	4.9
Canada	412	416	511	818	307	60.1
United States	1618	1562	1346	1395	49	3.6
North America	2030	1978	1857	2213	356	19.2
IMPORTS						
EUROPE :	4588	4411	4494	4624	130	2.9
of which :						
Germany	879	865	1003	1194	191	19.0
United Kingdom	1397	1157	1202	1130	-72	-6.0
Netherlands	583	612	560	552	-8	-1.4
France	423	341	304	337	34	11.2
Italy	216	241	257	323	66	25.7
Denmark	198	152	171	188	17	9.9
Other countries	892	1042	997	899	-98	-9.8
Canada	242	288	288	354	66	22.9
United States	1649	1630	1547	1769	222	14.4
North America	1891	1918	1835	2123	288	15.7

Table 21
Plywood balance in Europe, the Russian Federation and North America, 1991 to 1995
(million m^3)

	1991	1992	1993	1994	1995 (prelim.)	Timber Committee estimates a/	
						for 1995	for 1996
EUROPE							
Production	3.01	2.98	3.30	3.67	3.49	3.76	3.90
Imports	4.29	4.59	4.41	4.49	4.62	4.64	4.61
Exports	1.53	1.57	1.72	1.97	1.90	2.04	2.16
Net trade b/	-2.76	-3.02	-2.69	-2.52	-2.72	-2.60	-2.44
Apparent consumption	5.77	6.00	5.99	6.19	6.21	6.36	6.35
RUSSIAN FEDERATION							
Production	...	1.27	1.04	0.89	0.92	0.92	0.96
Imports	...	-	0.01	0.01	0.01	0.01	0.01
Exports	...	0.23	0.46	0.57	0.60	0.57	0.58
Net trade b/	...	0.23	0.45	0.56	0.59	0.56	0.57
Apparent consumption	...	1.04	0.59	0.33	0.33	0.36	0.39
NORTH AMERICA							
Production	18.44	18.95	18.92	19.21	18.98	18.35	17.51
Imports	1.60	1.89	1.92	1.84	2.12	2.06	2.06
Exports	1.66	2.03	1.98	1.86	2.21	2.23	2.23
Net trade b/	0.06	0.14	0.06	0.02	0.09	0.17	0.17
Apparent consumption	18.38	18.81	18.86	19.19	18.89	18.18	17.34

a At November 1995 session. The Committee's estimates for 1995 and 1996 have been adjusted to make them comparable with the historical (actual) data for 1991-1995.
b + = net exports; - = net imports.

Graph 17
Consumption of plywood, 1964 to 1995



The reference prices, which include minimum prices for exports to China and South Korea, were revised and came into force in March 1996. INDO96 and M96 are set at higher levels than the previous references, for thickness over 12 millimetres. Since their introduction, prices have risen by 3% to 4% from the low levels at the end of 1995. Developments for the rest of 1996 are expected to be firm prices and declining offer (Indonesian exports could further drop in 1996 to 8 million m^3, due to log shortages).

Brazilian plywood exports dropped by 24% in 1995 to 655,000 m^3. Prices are fixed below South East Asian prices, but their depressed level in 1995 was too low for Brazilian exporters to cover their production costs.

The 1995 developments in the tropical non-coniferous plywood markets, are explained by Indonesia as the result not only of a depressed demand in Japan but as a worldwide oversupply of tropical plywood, which has been estimated to be 14.5 million m^3, 2.5 million m^3 above world demand. Another factor affecting demand is competition from MDF and OSB, with their lower production costs, which can substitute for plywood in many uses. Average production cost for MDF is $200 to $250, while that of plywood is $450 to $500.

Japanese imports of Malaysian plywood attained almost 1 million m^3 in 1995; imports from Indonesia dropped by 7% to 3 million m^3, but continue to be t major supplier.

E. Woodpulp, pulpwood and paper and paperboa

This section analyses trends on markets f pulpwood, preceded by a brief discussion developments for pulp and paper, which clearly play determinant role in demand for pulpwood. It should borne in mind that in the standard ECE/FA terminology, "pulpwood" refers to all wood to be us as raw material for the manufacture of pulp,partic board and fibreboard. "Pulpwood" includes "pulpwoo round and split" (or "round pulpwood"), which may either coniferous or non-coniferous and "residues, chi and particles", a by-product of the sawmilling a plywood industries.

(i) Pulp, paper and paperboard

In 1995, apparent consumption of paper a paperboard in Europe and North America ro marginally (about 0.3% in both regions), in line wi the generally weak economic growth (graph 20). F production, (which is what determines demand for fib raw material), however, there were differences betwe regions and grades: European paper production rose about 1.2%, while the rise in North America w slower, being about 0.3% (table 22).

Graph 20
Consumption of paper and paperboard, 1964 to 1995

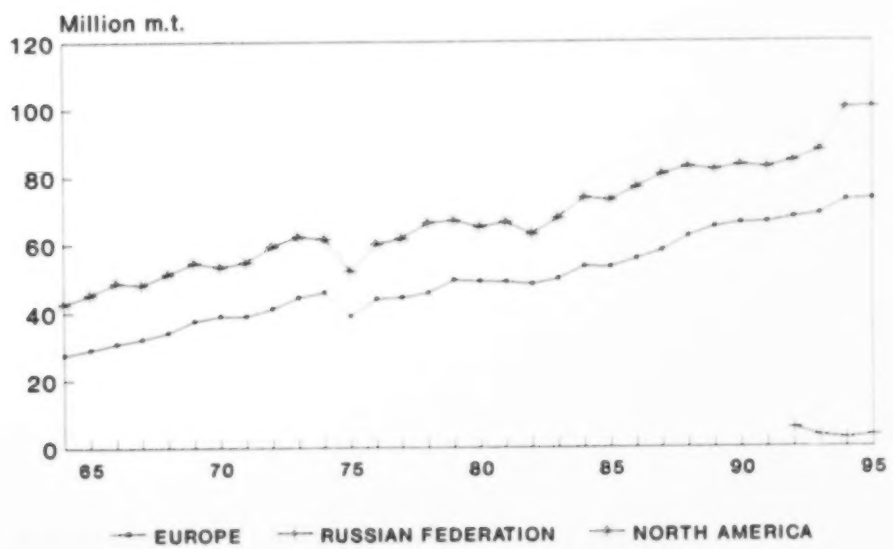


Table 22
Production of paper and paperboard in Europe and North America, 1992 to 1995

	1992	1993	1994	1995 (prelim.)	Change 1994 to 1995	
					Volume	Percent
			(1000 m.t.)			(%)
NEWSPRINT						
EUROPE	8640	9258	9740	10039	299	3.1
of which :						
Sweden	2124	2325	2415	2345	-70	-2.9
Germany	1222	1302	1499	1726	227	15.1
Finland	1257	1425	1446	1425	-21	-1.5
Norway	934	1007	1007	1007	...	...
France	669	802	844	890	46	5.5
United Kingdom	700	741	769	769	...	...
Other countries	1734	1656	1760	1877	117	6.7
Canada	8931	9136	9321	9251	-70	-0.8
United States	6424	6505	6984	7002	18	0.3
North America	15355	15641	16305	16253	-52	-0.3
Japan	3255	2917	2972	2972	...	...
OTHER PRINTING AND WRITING PAPER						
EUROPE	24802	25468	28539	28736	198	0.7
of which :						
Finland	5045	5567	6159	6457	298	4.8
Germany	5173	4928	5865	5872	7	0.1
France	2948	2936	3268	3096	-172	-5.3
Italy	2397	2381	2595	2596	1	0.0
Sweden	1805	1884	2061	2046	-15	-0.7
United Kingdom	1583	1675	1819	1819	...	...
Other countries	5851	6097	6772	6850	79	1.2
Canada	3567	4194	4445	4810	365	8.2
United States	20281	21829	25714	25160	-554	-2.2
North America	23848	26023	30159	29970	-189	-0.6
Japan	9610	9543	9805	9805	...	...
OTHER PAPER AND PAPERBOARD						
EUROPE	35893	37127	39668	40103	435	1.1
of which :						
Germany	6819	6804	7093	7229	136	1.9
Sweden	4449	4572	4808	4778	-30	-0.6
France	4073	4237	4589	4633	44	1.0
Italy	3542	3555	3956	4023	67	1.7
United Kingdom	2869	2990	3241	3241	...	...
Finland	2845	2998	3304	3060	-244	-7.4
Other countries	11297	11971	12677	13139	462	3.6
Canada	4087	4198	4583	4630	47	1.0
United States	48456	48833	56547	57126	579	1.0
North America	52543	53031	61130	61756	626	1.0
Japan	15459	15304	15750	15750	...	...

Global *newsprint* markets were tight in 1995 and prices rose, causing sharp rises in costs of newspaper production. Production rose by 3.1% in Europe and fell slightly in North America. There are contrasts between trends for the traditional "forest-based" suppliers to world markets, Canada, Finland and Sweden, whose production fell, and those for producers nearer the end users, notably Germany, France and the United States of America, where it rose, strongly in the case of Germany. Although no information is available on this aspect, it appears plausible that newsprint based on recovered fibre and produced near the fibre source and the end user has gained at the expense of virgin fibre based newsprint.

However, tension has been building for the supply/demand balance in the world's largest newsprint market, the United States of America. Consumption (real consumption, as reported by the Canadian association CPPA, not apparent consumption) in the United States has been falling steadily since late 1994, from a seasonally adjusted annual rate of just over 12 million m.t. to about 10.8 million m.t. in May 1996, a drop of 10% in less than 18 months. Over the same period, according to the same source, consumers' stocks rose from about 35 days supply to over 50 days supply. Through 1995, prices remained firm, largely due to stronger demand in other markets, and possibly to the stock building process itself, as consumers build up stocks as a hedge against expected higher prices, which in turn encouraged further price increases. In spring 1996, however, it appears that newsprint prices started to fall, and that this price fall may be steep, magnified by the same factors (stock changes, price expectations) as pushed prices up, but this time working in the opposite direction.

For other grades of paper and paperboard, trends have been similar, although the violence of the price movements has been less marked in grades which do not have the "commodity" status of newsprint. Europe's production of "*other printing and writing paper*" rose slightly, with stagnation or declines in most countries offset by a rise of nearly 5% in Finland, which became the European leader in this sector in 1993, overtaking Germany. Finland accounted for 20.3% of Europe's production of other printing and writing in 1992, but this share had risen to 22.5% by 1995. North American production of these grades fell in 1995, led by the major producer, the United States.

Production of "*other paper and paperboard*" rose by just over 1% in both Europe and North America, with a significant fall only in Finland. However conditions have been difficult in many markets, with small rises in demand (if any) and problems overcapacity and falling prices. For instance, linerboard (another "commodity" grade), with dem hardly growing in the United States and new capa coming on stream in North America and Asia, price spring 1996 were dramatically down on those of 1995 (in a range of $400-500/ton, compared to $7 750). Furthermore North American companies ad about 1.68 million m.t. of capacity in 1995 and anot million tons are expected for 1996 and 1997. Of 15 announced capacity expansions in the United St for 1995-97, twelve concern recycled linerboard recycled medium according to *Internatio Papermaker*, a clear indication of the attraction recycled fibre as a raw material source.

(ii) Woodpulp

Developments in the markets for *woodpulp* 1995 and early 1996 were dramatic. Prices for indicator grade (Northern Bleached Softwood Kraft NBSK) rose to reach nearly $1000/m.t in mid 1995, then fell very sharply to reach about $500/m.t May/June 1996, with even lower prices for "sp contracts. This fall was caused by the slowdown demand and the coming on stream of new capac notably in Indonesia as well as Brazil, which upset fine balance of the global pulp markets. T phenomenon was magnified by stock building dur the upward price phase and stock reduction during downward phase. Major market pulp producers reac by cutting production in the fourth quarter of 1995 the first of 1996, in order to reduce stock levels. July 1996, there are the first signs of a recovery in price of market pulp with announcements of a rise $60/m.t. by some producers.

Naturally this sharp reduction in pulp prices the production cutbacks it led to had a strong influe on demand for pulpwood, which is explored in the n section.

The data on pulp production for 1995 in table 23 are rather misleading as they represent combination between a first half marked by stro activity and high prices and profits and a second h marked by low prices and production cutbacks. It clear however that markets for mechanical pulp ha been stronger than for chemical pulp, possibly beca of the strong demand for newsprint during 19 European production of chemical pulp for 1995 (i.e. year as a whole) was about 1% higher than in 19 with small year-on-year declines for Finland, Fra and Germany. In Spain, chemical pulp product rose by early 8%, but in so doing only recover

Table 23
Production of woodpulp in Europe and North America, 1992 to 1995

	1992	1993	1994	1995 (prelim.)	Change 1994 to 1995	
					Volume	Percent
			(1000 m.t.)			(%)
MECHANICAL WOODPULP						
EUROPE :	11648	11828	12291	12601	310	2.5
of which :						
Finland	3170	3401	3631	3797	166	4.6
Sweden	2525	2722	2858	2861	3	0.1
Norway	1217	1418	1516	1516	...	...
Germany	1468	1331	1236	1266	30	2.4
Other countries	3269	2956	3050	3161	111	3.6
Canada	10243	10588	10838	11515	677	6.2
United States	5898	5586	5884	6167	283	4.8
North America	16141	16174	16722	17682	960	5.7
Japan	1861	1644	1636	1636	...	...
CHEMICAL WOODPULP a/						
EUROPE :	22639	22828	23749	23909	160	0.7
of which :						
Sweden	7065	7231	7310	7326	16	0.2
Finland	5371	5937	6331	6291	-40	-0.6
France	1806	1717	1901	1884	-17	-0.9
Portugal	1592	1520	1539	1539	...	...
Spain	1434	1268	1374	1481	107	7.8
Austria	1112	1078	1196	1230	34	2.8
Norway	789	749	771	771	...	...
Germany	724	701	721	718	-3	-0.4
Poland	656	690	644	671	27	4.2
Other countries	2090	1936	1963	1999	36	1.8
Canada	12618	12548	13893	14052	159	1.1
United States	53382	52935	59904	60942	1038	1.7
North America	66000	65483	73797	74994	1197	1.6
Japan	9333	8946	8939	8939	...	...

a/ Including semi-chemical woodpulp and dissolving grades.

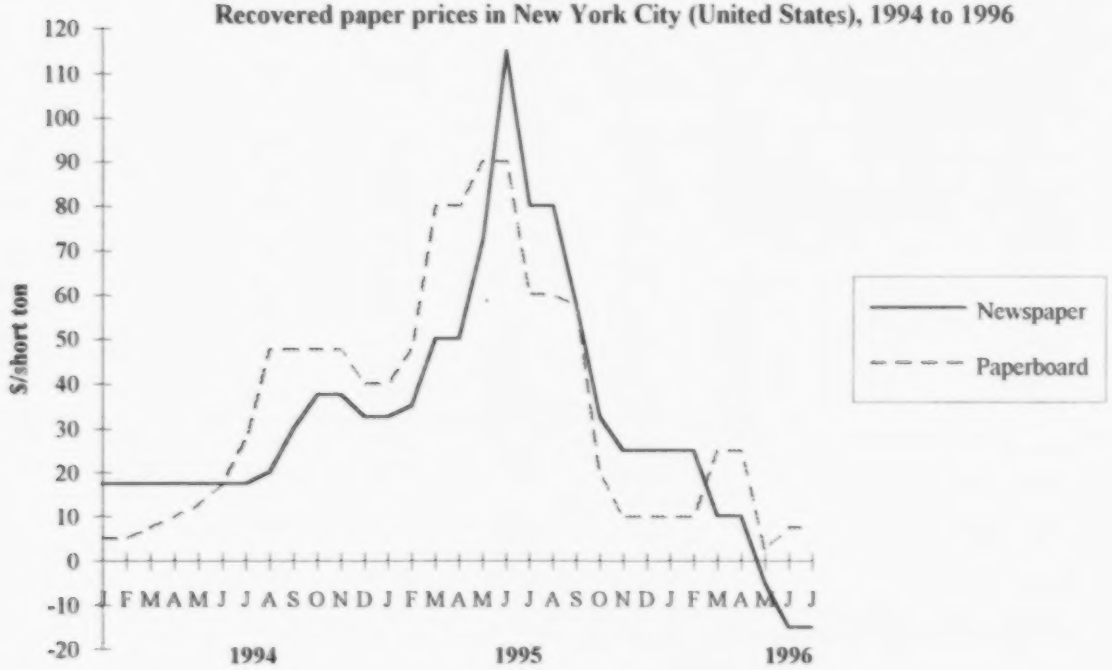
ground lost in 1993 and 1994, and was in 1996 at about the same level as in 1992. North American production rose by 1.6% to nearly 75 million m.t.

In Russia, pulp production recovered somewhat, from 3.9 million m.t. to 5.1 million m.t., an increase of over 30%. This still compares unfavourably with pulp production in the former USSR of over 10 million m.t. around 1990, before the start of the "transition recession".

Waste paper (recovered fibre) markets have also been influenced by the collapse in pulp markets. The steady expansion of waste paper recovery programmes (in many cases faster than the installation of waste paper processing capacity) led to generally rather low (even in a few cases, negative) prices for recovered fibre in the early 1990s. The rise in pulp prices, however, influenced recovered fibre prices. For instance, prices of OCC (old corrugated containers, a major grade of recovered fibre), which had been as low as $20/ton (delivered to mill, in the United States) in the early 1990s rose to $200 in March-June 1995. However, in early autumn 1995, under the influence of developments for market pulp, recovered fibre prices fell world-wide: in New York, prices for recovered newspapers fell from a peak of $120/short ton to $20 at the end of 1995 and to negative prices (i.e., a charge for recovery) of $10-20 in spring 1996 (graph 21).

A continuing feature of the markets for pulp and paper is increasing concentration of industrial groups, creating a small number of very large companies with multi-national operations. 1995 saw further concentration in Finland and mergers/takeovers in the United States, as well as the greater prominence of a number of international logging companies, founded in South East Asia, but now operating also in other regions.

Graph 21
Recovered paper prices in New York City (United States), 1994 to 1996



Source: "Paper Stock Report".

(iii) Markets for pulpwood

The estimated consumption of pulpwood ("derived requirements" estimated on the basis of production of pulp, particle board and fibreboard) rose slightly (just over 2%) in 1995, compared to 1994, although again this figure for the year as a whole does not show clearly the contrast between the strong demand in the first half and the weaker conditions which prevailed from late summer (table 24). In fact, the change of market conditions which took hold of the pulp markets rapidly in late summer would have taken some time to influence the pulpwood markets. For most products the rise over the year was modest, but for fibreboard, the rise was over 20%, which may be attributed to the spectacular increase in production of MDF, especially in Italy and Spain.

For most European countries, including the three largest pulpwood consumers (Sweden, Finland and

Table 24
Derived pulpwood requirements in Europe and North America, 1992 to 1995

	1992	1993	1994	1995 (prelim.)
		(million m3 EQ) a/		
EUROPE				
Mechanical woodpulp	29.12	29.57	30.73	31.50
Semi-chemical woodpulp	4.40	4.10	3.92	3.99
Chemical woodpulp b/	101.63	103.02	107.73	108.38
Particle board	37.54	38.29	40.41	41.13
Fibreboard	7.31	8.18	9.01	10.98
Total	180.01	183.16	191.79	195.98
Change on previous year				
- Volume		3.16	8.63	4.19
- Percent		1.8	4.7	2.2
NORTH AMERICA				
Mechanical woodpulp	40.35	40.44	41.81	44.21
Semi-chemical woodpulp	12.69	12.22	13.42	13.00
Chemical woodpulp b/	296.49	294.76	332.76	339.17
Particle board	24.17	25.93	26.82	28.85
Fibreboard	10.67	10.77	11.29	11.50
Total	384.37	384.12	426.09	436.73
Change on previous year				
- Volume		-0.25	41.97	10.64
- Percent		-0.1	10.9	2.5

a/ Equivalent volume of wood in the rough, calculated from data on production of pulp and panels, using the following conversion factors :

Mechanical woodpulp : 1 m.t. = 2.5 m3 EQ
Semi-chemical woodpulp : 1 m.t. = 3.0 m3 EQ
Chemical woodpulp (incl. dissolving) : 1 m.t. = 4.8 m3 EQ
Particle board : 1 m3 = 1.4 m3 EQ
Fibreboard : 1 m3 = 1.8 m3 EQ

b/ Including dissolving pulp.

Germany), the rise in derived requirements for pulpwood was marginal, but for some there were steep rises: Italy (+35%), Poland (+11%) and Spain (+7%) (Table 25). For all of these the growth in MDF production was an important factor (as well as particle board in the case of Poland). The increase for Italy is an overestimate because the 1994 data for MDF production were very probably too low. For both Italy and Poland, the strength of an export oriented furniture industry was one of the foundations for the strong increase in derived requirements of pulpwood. In Russia, derived requirements for pulpwood rose by nearly 20%, but still did not recover the level of 1993 and earlier years.

Towards the end of 1995, those mills which took downtime to reduce excessive pulp stocks, refused to accept deliveries of round pulpwood and sawmill residues. This naturally had an effect on the economics also of sawmilling and of forestry, both of which had increasing difficulties to cover their costs, in some parts of Europe at least.

European pulpwood removals rose in 1995 by 5.6% (6.2 million m^3) to just over 116 million m^3, which is still well below the level of 1989 (125 million m^3). Coniferous pulpwood removals rose slightly faster than non-coniferous. Removals are reported to have risen rather faster than derived requirements, although until data for all countries are available it is not possible to say whether this indicates that domestic removals took a larger part of consumption than in 1994. Among the major pulpwood producing countries, removals rose by 2.2 million m^3 in Finland and by 1.4 million m^3 in both Germany and Sweden. Two countries saw increases in pulpwood removals of about 25%: in Ireland, the rise was presumably due to the coming on stream of the new MDF mill, while in Romania the rise of 0.4 million m^3 was a partial recovery of the levels of the late 1980s, although the 1.9 million m^3 recorded in 1995 was still well below the (probably unsustainable) level of 5 million m^3 recorded in 1988. The increase in pulpwood removals is an indication that the Romanian forest sector is beginning to recover from the deep recession induced by the changes inherent in the transition process.

Domestic prices for round pulpwood in 1995 were firm, especially for birch in Finland, and some (but not all) of the ground lost in 1993/94 was recovered. Only Finnish birch pulpwood of the four assortments shown in the graph 22 was significantly above the level of January 1992 (with no adjustment for inflation), and German and Austrian prices were still well below the 1992 level. However, indications for the first part of 1996 (not shown on the graph) that from spring onwards, pulpwood prices were und downward pressure. In Germany, although prices *industrieholz* (essentially pulpwood) rose in Janu 1996, by June it was reported that in Bavaria assortment was practically impossible to s According to *Holz-Kurier* in Austria, prices pulpwood from the state forests were expected to between the first and second quarter of 1996. Stoc of pulpwood at mills are reported high in ma countries.

International trade in pulpwood has beco harder to analyze in quantitative terms since pulpwood/logs distinction was dropped from classification of international roundwood trade. Th it is not possible to separate developments for lo from those for round pulpwood. However, it is v likely that the steep rises in industrial wood imports Finland and Sweden in 1995 (+2.6 and +1 million respectively) concern essentially pulpwood. These t countries import pulpwood from the Baltic countri Russia and Latin America, and the strong mar conditions in the first half of 1995 would certainly ha stimulated imports of pulpwood.

Europe's exports of wood residues, chips a particles fell by just over 4% because of developme in Germany, Belgium-Luxembourg and Ireland (wh the new MDF mill presumably presented an attracti alternative to export) (table 26). In Germany, sawnwood production was probably fairly stable, drop of nearly 200,000 m^3 (over 6%) in exports residues may be due to demand from domes pulpwood using industries, notably particle board a MDF. European imports of residues, chips a particles rose by nearly 400,000 m^3, notably because trends in France (+20%) and Italy (+13%), both which have raised their imports of residues and chi by about 80% since 1993.

Japanese imports of chips in 1995 were abo 26.4 million m^3, about 13% more than in 1994, becau of strong pulp production. The share of imports total pulpwood consumption rose again, from 62% 1994 to 65% in 1995. The share of different supplie also changed, with drops for United States Douglas (-11%) and Canadian spruce-pine-fir (-22%), b increases for Australian coniferous (+49%), Ne Zealand coniferous (+137%) and Chilean conifero (+424%). For non-coniferous chip imports, the Unit States South showed an increase of 15%, Australia 7 Chile 15% and China 73%. The imports of chips fro plantations, as opposed to natural forests, increas (Source: *Japan Lumber Journal*, 20 April 1996).

Table 25
Derived pulpwood requirements in selected countries, 1992 to 1995

	1992	1993	1994	1995 (prelim.)	Change 1994 to 1995	
					Volume	Percent
		(million m3 EQ) a/				(%)
Sweden	40.83	42.12	42.86	43.13	0.26	0.6
Finland	33.56	36.97	39.47	39.65	0.18	0.5
Germany	18.51	19.07	20.18	20.24	0.06	0.3
France	15.27	14.35	15.71	16.08	0.37	2.3
Spain	10.07	9.32	10.03	10.77	0.74	7.4
Austria	8.69	8.52	9.28	9.42	0.14	1.5
Portugal	9.06	8.62	9.05	9.05	...	...
Norway	7.53	7.77	8.20	8.20	...	...
Poland	5.46	5.75	5.89	6.56	0.68	11.5
Italy	5.02	4.86	4.77	6.44	1.67	35.1
Russian Federation	36.69	28.73	21.36	25.59	4.23	19.8
Canada	91.44	93.11	100.89	104.18	3.29	3.3
United States	292.93	291.01	325.20	332.55	7.35	2.3

a/ Equivalent volume of wood in the rough calculated from data on production of pulp and paper using the conversion factors given in the footnote a/ to previous table.

Graph 22
Trends for selected pulpwood prices in Europe, 1992-1995

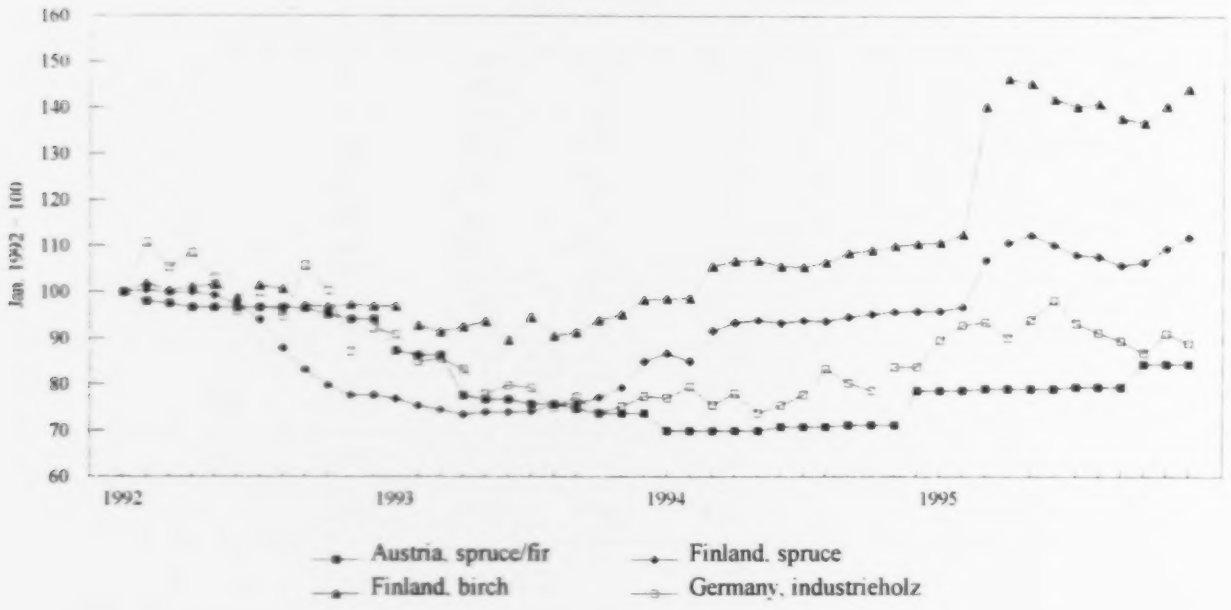


Table 26
Exports and imports of wood residues, chips and particles, 1992 to 1995

	1992	1993	1994	1995 (prelim.)	Change 1994 to 1995 Volume	Change 1994 to 1995 Percent
			(1000 m3)			(%)
EXPORTS						
EUROPE	7203	6792	8504	8135	-369	-4.3
of which :						
Germany	2653	2272	3032	2845	-187	-6.2
Austria	541	1060	1542	1542	...	...
France	1403	948	994	1029	35	3.5
Belgium-Luxembourg	465	310	749	635	-114	-15.3
Czech Republic	...	505	512	492	-20	-3.9
Netherlands	501	366	417	321	-96	-23.0
Sweden	334	295	235	271	36	15.3
Switzerland	80	91	134	171	37	27.6
Norway	120	74	104	147	43	41.7
Ireland	317	291	263	141	-122	-46.4
Other countries	789	580	522	541	19	3.7
Russian Federation	364	719	516	533	17	3.3
Canada	1264	1177	1388	1488	100	7.2
United States	8753	6893	7523	7974	451	6.0
North America	10017	8070	8911	9462	551	6.2
IMPORTS						
EUROPE	7861	7740	10631	11012	381	3.6
of which :						
Austria	1006	2068	3023	3023	...	...
France	966	811	1230	1478	248	20.2
Italy	709	687	1088	1235	147	13.5
Belgium-Luxembourg	824	543	1134	1196	62	5.4
Germany	1027	712	766	780	14	1.8
Sweden	784	508	775	653	-122	-15.7
Switzerland	589	611	662	608	-54	-8.2
Finland	761	657	646	582	-64	-9.9
Norway	347	382	453	520	67	14.8
Netherlands	348	250	265	256	-9	-3.4
Other countries	500	511	589	681	92	15.7
Canada	605	588	1198	1344	146	12.2
United States	888	1389	789	1227	438	55.5
North America	1493	1977	1987	2571	584	29.4
Japan	22012	21833	23201	23201	...	...

F. Developments in forest products markets outside the ECE region

Heretofore the *Review* has referred to developments within the ECE region. But as forest products markets are increasingly global in nature, developments outside the ECE region, especially Japan, New Zealand and Chile, affect the ECE members. Therefore this section presents the major trends in those markets.

(i) Japan

By total value, Japan is the world's second largest importer of forest products, importing 15.7% of the world's forest products, equal to $16.8 billion. Unlike the first importer, the United States, which is mostly dependent on a single supplier (Canada), Japan draws its imports from all over the world. According to the *Japan Lumber Journal*, the imported wood and wood products in total for 1996 is forecast at 88 million m^3, almost equal to 1995. The overall demand is estimated to be slightly over 1995, to 112 million m^3. This volume corresponds to the analysis of Japanese housing trends in Chapter II.

Thus, the Japanese demand for construction wood is strong in 1996 and the associated markets for moulding, furniture and accessories will be equally strong. Two options exist for the source of timber: domestic or imported. Forests cover two-thirds of Japan, yet the annual harvest has fallen by 18% in the 1990s, from 29.3 million m^3 to 24.2 million m^3 in 1995 (graph 23). According to the National Forestry Agency the reasons for the decline are the difficulty in logging terrain, reductions in skilled loggers, high labour costs and lower cost imports. The *Japan Lumber Journal* forecasts a divergence from the decline in domestic harvests in 1996 with domestic harvests increasing 1.5% to 24 million m^3.

Because Japan had facilities and skilled labour in forest products manufacturing they initially attempted to offset the decline of forest removals by imports of logs. But the imports of logs has declined over the last 6 years because with the strong yen, imported sawnwood and wood-based panels were cheaper than domestic production. For the first time in 1995, imports of sawnwood were greater in value than logs, however they were still less in volume (tables 27 and table 28). The ratio of logs to lumber stands at roughly 2:1 in volume, but by 1:1.1 in value. The fall in the value of the yen and the decrease in construction in 1995 was also partly responsible for the variations from 1994.

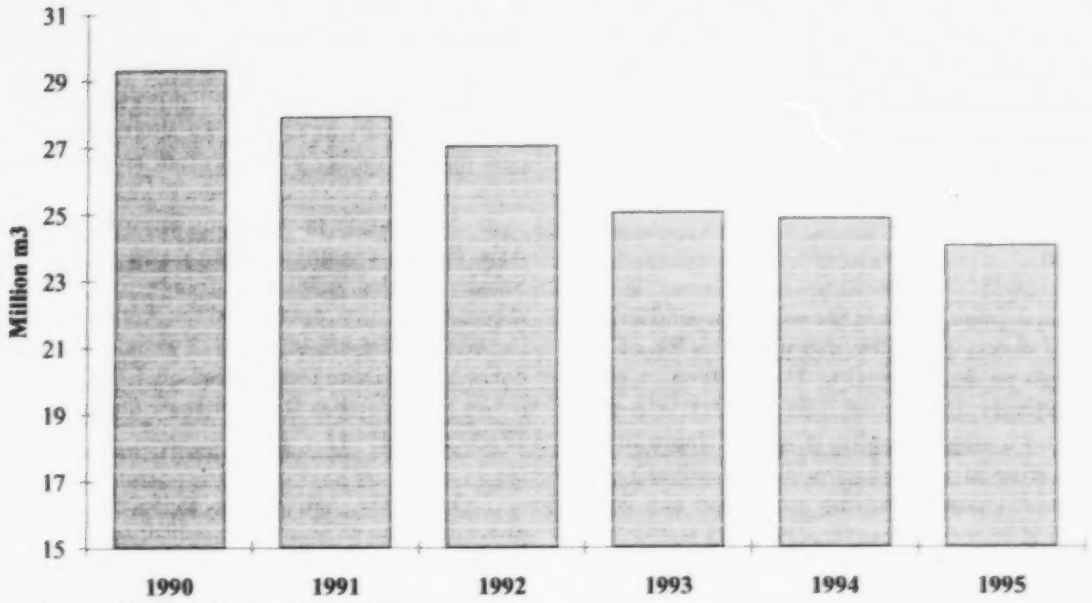
From the two tables on Japanese sawnwood and log imports it is evident that sources of supply are changing. For example the traditional *Asia Pacific* sources for sawlogs and veneer logs are declining as exporters are constrained by tariffs, log export bans, harvest restriction and measures to increase domestic consumption and value-added processing. Japan has shown flexibility in adapting to alternative species and now imports timber products from around the globe.

Still Japan's principal log imports come from the Asia Pacific region. After a two-year suspension, Sabah exported 6000 m^3 of logs to Japan in 1995 according to the *Japan Lumber Reports*. Other log imports in 1995 originated in: Sarawak, 3.9 million m^3, down 12.6% from 1994; Solomon Islands, 0.4 million m^3 up 12.8%; Papua New Guinea 1.6 million m^3, down 17.9% from 1994.

Like the sawmilling industry, the Japanese plywood manufacturing industry is declining. Production in 1995 was only half of that 10 years ago, and thus imported plywood was up 8.6% in 1995 over 1994. However from the largest supplier, Indonesia, imports decreased by 7% to 3.0 million m^3. This was in large part price related; as mentioned in last year's *Review*, the Indonesian marketing organization APKINDO was unsuccessful in raising in 1995 prices during a weak market demand period. As a consequence, plywood buyers sought other suppliers and thus Malaysian exports to Japan moved up 91% to 0.97 million m^3. While small in volume, the largest percentage increases from 1994 were from Finland which exported 4218 m^3 to Japan in 1995. North American plywood exports to Japan increased in 1995: Canada was up 37% on 1994 volumes, to 250,918 m^3 and the United States was up 10% to 52,170 m^3 (812,170 m^3 coniferous plus 25,000 m^3 non-coniferous). New Zealand is adding panel production capacity and in 1995, plywood exports from New Zealand to Japan were up 14% to 35,800 m^3.

Imports of *Russian* sawnwood of a record 425,000 m^3, were up 20.8% from 1994, because of development of marketing channels and production capacity of which a part was through Japanese joint-ventures.

Graph 23
Japan's timber harvest, 1990-1995



Source: Japanese National Forestry Agency, 1996

Table 27
Japanese sawnwood imports, 1994 and 1995

	Volume (1000 m³)		% change	Value (in million $)		% change
	1994	1995		1994	1995	
North America	7,639	6,801	-11.0	3,003	2,914	-3.0
Asia Pacific	2,155	2,533	17.6	1,239	1,370	10.5
Europe	590	866	46.6	202	296	46.9
Russian Federation	351	424	20.8	77	98	27.8
Latin & South America	17	28	62.6	10	15	48.9
Africa	3	4	54.9	1	3	224.6
Total	10,757	10,660	-0.9	4,534	4698	3.6

Source: *Japan Lumber Journal*, 1996

Table 28
Japanese log imports, 1994 and 1995

	Volume (1000 m³)		% change	Value (in million $)		% change
	1994	1995		1994	1995	
North America	7,654	7,275	-5.0	2,235	2,098	-6.1
Asia Pacific	8,944	8,212	-8.2	1,962	1,472	-25.0
Russian Federation	4,806	5,412	12.6	541	604	11.7
Africa	670	524	-21.8	188	127	-32.6
Europe	297	511	71.6	42	78	83.9
Latin & South America	11	2	-80.2	4	2	-47.4
Total	22,386	21,938	-2.0	4,975	4,383	-11.9

Source: *Japan Lumber Journal*, 1996

Increases in Russian log imports were reported in 1995 too:

	1000 m^3	% increase 1995/1994
Spruce/fir	1871	7.2
Larch	1411	15.2
Red pine	1339	22.6
Cedar	42	15.0
Other	750	9.6
Total	5413	12.6

Sources: *Japan Lumber Reports* and *Japan Lumber Journal*.

Imports from Russia were reported by *Japan Lumber Journal* and *Random Lengths Export* to be 16.3% ahead in the first quarter of 1996 compared to 1995, with payment in hard currency as well as by barter for heavy equipment.

At one time almost half of the Japanese timber imports were from *North America*, but this proportion has slipped in recent years due primarily to United States resource limitations which have turned shipments towards domestic markets. In 1995 North America supplied 43% by volume and 55% by value of Japan's log plus sawnwood imports. Western Canadian coniferous plywood plants have retooled to produce to Japan's sizes of 3x6- and 3x8-foot sizes (traditional North American sizes are 4x8 feet). New OSB plants in Alberta are also designed for the special sizes of the Japanese market. Japanese investors have started or purchased mills in North America as well as worldwide where forest resources exist.

In 1995, *temperate, non-coniferous sawnwood* imports totalled 373,653 m^3, 8.5% more than 1994 and the third largest volume in the past eight years. Over 60% comes from the United States. Despite the strong yen in 1995, the United States lost 5.8 points of its Japanese non-coniferous sawnwood market. Simultaneously China increased market share by 6 points to 33.5%, 0.1 million m^3. If the yen continues to weaken, as it did in 1995, China may benefit with increased market share. The demand for furniture dimension parts, both from United States and other producer countries, is increasing. According to *Japan Lumber Review*, another market channel for United States non-coniferous sawnwood is from United States logs sawn in Thailand, Malaysia and Indonesia.

In response to the decreased sawnwood imports from North American, especially from the United States, *other countries* export volumes to Japan increased by 25%, with Finland shipping 365,680 m^3 of sawnwood and 387,612 of logs. Sweden shipped 209,254 of sawnwood and 49,389 of logs. Total log and lumber imports from Chile jumped 51% in 1995 over 1994, from 446,308 to 672,905 m^3 of which sawnwood increased 77% to 537,193 m^3. Imports from New Zealand increased only 2% as sawnwood prices rose and logs were redirected to domestic production; however New Zealand's exports to Japan leapt 100% in January 1996 (compared to January 1995.)

Japan imported 3015 m^3 of temperate non-coniferous sawnwood from *Europe* in 1995: notably, France and Denmark. Temperate non-coniferous log imports amounted to 526,942 m^3, 8.1% less than 1994. Russian non-coniferous logs totalled 387,557 m^3, a decrease of 9.2% and United States logs were 833,453 m^3, a decrease of 11.8%. However Chinese log imports were 55,407 m^3, an increase of 7.4%.

The Japan Foreign Timber Supply and Demand General Conference estimated, in December 1995, that imports in 1996 would be 19.9 million m^3 for logs, 9.6 million m^3 for sawnwood and 4.3 million m^3 for plywood. The total, 33.8 million m^3, will be 2.8% less than 1995 (34.8 million m^3 total). At the Conference, housing starts for 1996 were estimated at 1.35 million, but as mentioned above, at mid-year they are expected to go beyond 1.5 million, i.e., 12% higher than the prediction, and thus the forecast demand should be considered accordingly. The following table shows the Conference's estimates for 1995 and forecasts for 1996 by region, along with updated statistics for 1995 where available:

	1995 imports 1000 m^3	1996 demand 1000 m^3
South Sea and Africa		
Logs	8305	7667
Plywood	6077	5587
Sawnwood	350	1280
North American		
Logs	7115	6859
Sawnwood	7355	7108
Russia		
Logs	5055	5000
Sawnwood	398	420
New Zealand-Chile		
Logs	1617	1680
Sawnwood	723	800
Total	30440	29534

Source: *Japan Lumber Journal* and others.

According to the *Japan Lumber Journal*, demand for plywood in 1996 will be similar to 1995. Pulpwood and pulp chip demand will increase 2% over 1995. In 1996 the weak yen may reduce imports of logs and lumber but the imports of chips, plywood and veneer are forecast to expand.

A number of other *trends* are taking place in the Japanese market place. Engineered wood products are finding market acceptance in Japan. Laminated veneer lumber (LVL) is being imported and produced domestically to replace solid sawnwood in structural uses. Another trend is the substitution of kiln-dried sawnwood for traditional post-and-beam items such as unseasoned hemlock and Douglas fir from North America. Traditional channels of distribution are being bypassed by end-users seeking to lower their costs of imported products.

Stocks have dropped after the shock in 1995, where Japanese buyers tried to procure sawnwood stocks ahead of anticipated price rises, and then found themselves with high priced inventories worth more than the falling price of sawnwood in the second half of 1995. In March 1996, stocks were at their lowest levels in 2 years: 1.2 million m^3 of lumber and 0.7 million m^3 of logs. While transportation times for imports can be quite long, the Japanese are said to be adopting just-in-time (JIT) buying to offset inventory carrying costs.

The conclusion of the Uruguay Round of GATT (General Agreement on Tariffs and Trade) and the coming into effect in 1995 of the World Trade Organization will gradually reduce Japan's relatively high tariffs on wood and wood products. The 1996 tariffs, reduced from 1995, range from 0% for high-value paulownia logs and sawnwood to 6.5% for spruce-pine-fir sawnwood, to 15% for thin tropical plywood.

Other Asian markets are showing prosperity. For example the South Korean economy is vibrant with GDP growth between 6 and 7%. Taiwan's forecast GDP growth in 1996 is 6.5% and increased imports of coniferous sawnwood are forecast by *Widman's World Wood Review* to be 500,000 m^3 from North America, New Zealand and Chile. Australian sawnwood imports are forecast to fall in 1996 as housing starts drop and domestic production of sawnwood increases.

(ii) New Zealand

New Zealand's 1.5 million hectares of planted production forests, which are over 90% radiata pine, grow at 20 to 25 m^3 per hectare per year and harvested after 25 to 30 years. From 1992, when more favourable tax system gave impetus to planti through 1995, 281,000 hectares of new forest ha been planted. The Ministry of Forestry forecasts average of 68,000 hectares will be planted throu 2000.

From existing forests, 17 million m^3 roundwood is available per year. In 1995 remov were 16.2 million m^3 from planted production fore and 0.2 million m^3 from natural forests. Most natu forest lands are designated as park reserves. As result of large-scale planting programmes in the 197 harvest volumes are forecast to double soon after 20

Approximately 60% of New Zealand's harvest exported. Total forest products exports in 1995 wer record high NZ$2.6 billion, up 3.2% from 1994. Ma markets were:

	% of total	% change 1995/1994
Japan	29.4	4.3
Australia	27.5	-7.8
Korea	16.8	29.0
United States	5.1	-7.4
Taiwan	5.0	5.6
Others	16.2	4.1

Forest products exported in 1995 were:

	% of total value	% change 1995/1994
Logs and poles	24.6	-9.4
Sawnwood	17.6	-10.4
Chemical pulp	12.1	40.4
Newsprint	8.5	3.7
Fibreboard	7.8	1.0
Mechanical pulp	7.3	21.3
Other paper and paperboard	5.1	7.1
Plywood	4.9	16.7
Paper and paperboard items	3.4	11.0
Miscellaneous	3.3	11.5
Particle board	2.4	20.8
Wood chips	2.3	64.9
Veneer	0.4	37.5
Wooden furniture and parts	1.3	-23.3
Total	100.0	3.2

Source: Ministry of Forestry, Wellington, New Zealan 1996.

Traditionally a sawnwood and log exporter, New Zealand is diversifying rapidly into higher value-added products like wood-based panels, especially MDF, preservative treated wood, furniture, etc. Annual production of panels and veneer increased dramatically from 1994 to 1995: veneer up 67.6% to 0.2 million m^3; plywood up 55.3% to 0.1 million m^3; fibreboard up 24.7% to 0.7 million m^3; and particle board up 0.1% to 0.2 million m^3. Forest products exports are forecast by the Ministry of Forestry to increase in value slightly in 1996 but then decrease in 1997, partly in response to a strengthening New Zealand dollar. In volume terms, exports are forecast to increase. Nationally, forest products exports rank third in value behind dairy products and meat exports.

(iii) Chile

It is impossible to talk about radiata pine without mentioning the production and exports from Chile. With a maritime climate like New Zealand, radiata pine grows well and pine plantations now constitute 1.3 million hectares plus another 0.2 million hectares are in eucalyptus forests. Planting is encouraged by the government and from 1991 through 1993, an average of 124,000 hectares were added per year. Based upon financial maturity of forests at 26 years of age, harvests from 2000 onwards will swell to 30 million m^3 per year.

Chile depends heavily on forest products exports which accounted for $1.1 billion in 1993. In 1995 sawnwood exports were a record 1.1 million m^3 and sawlog and pulplog exports also hit records of 1.7 and 0.3 million m^3 respectively. Chip exports from conversion of natural forests are significant.

Chile's 1995 top 10 sawnwood export markets:

	1000 m^3
Japan	405
United Arab Emirates	187
Saudi Arabia	89
United States	84
Taiwan	71
United Kingdom	57
Egypt	30
Oman	26
South Korea	24
Puerto Rico	21
Other Europe	28
Other	52
Total	1074

Source: Fundaçion Chile

Chile's 1995 log export markets were:

	Pulplogs 1000 m^3	Sawlogs 1000 m^3
Japan	85	8
Sweden	73	...
France	69	...
Spain	38	...
South Korea	9	1584
Turkey	..	71
Taiwan	...	0.5
Total	274	1665

Source: Fundaçion Chile

Chile is diversifying its production away from pulp, sawnwood and logs toward value added products like MDF and other wood-based panels and products and furniture. Increased production capacity is anticipated with a combination of government incentives and foreign investments including companies from Japan and New Zealand.

ANNEX

Table 1

CONIFEROUS SAWNWOOD - SCIAGES RESINEUX

APPARENT CONSUMPTION - CONSOMMATION APPARENTE

Country	Total (1000 m3)			Per capita (m3/1000 capita)			Pays
	1993	1994	1995	1993	1994	1995	
Albania	10	8	8	3	2	2	Albanie
Austria	3366	3693	3929	421	460	487	Autriche
Belgium-Luxembourg	1644	1747	1941	157	167	185	Belgique-Luxembourg
Bulgaria	198	176	176	23	21	21	Bulgarie
Cyprus	87	89	89	121	122	120	Chypre
Czech Republic	2026	2000	2070	196	194	200	République tchèque
Slovakia	275	110	82	52	20	15	Slovaquie
Denmark	1947	2562	2159	375	493	413	Danemark
Finland	2226	2706	2086	439	532	408	Finlande
France	7197	7867	7853	125	136	135	France
Germany	13892	16134	15333	171	198	188	Allemagne
Greece	549	583	583	53	56	56	Grèce
Hungary	690	786	1014	67	77	99	Hongrie
Iceland	86	66	66	331	244	244	Islande
Ireland	636	795	778	179	223	217	Irlande
Israel	532	369	369	101	68	68	Israël
Italy	5098	5596	5363	89	98	94	Italie
Malta	13	14	14	36	39	39	Malte
Netherlands	2715	2973	2515	178	193	163	Pays-Bas
Norway	1917	2353	2375	445	545	545	Norvège
Poland	2634	3393	3880	68	88	101	Pologne
Portugal	887	730	764	90	74	71	Portugal
Romania	835	437	392	37	19	17	Roumanie
Spain	3071	3139	3237	79	80	83	Espagne
Sweden	2596	3327	4073	297	378	461	Suède
Switzerland	1577	1581	1736	227	226	247	Suisse
Turkey	3270	2305	2504	55	38	41	Turquie
United Kingdom	8330	10138	7610	143	174	130	Royaume-Uni
Other countries	375	378	386	16	16	16	Autres pays
EUROPE	68679	76054	73385	120	133	128	EUROPE
Russian Federation	26351	19353	17193	178	131	116	Fédération de Russie
Canada a/	16351	16415	12542	565	561	424	Canada a/
United States a/	107858	113723	111455	418	436	424	Etats-Unis a/
NORTH AMERICA	124209	130138	123997	433	449	424	AMERIQUE DU NORD
Japan	32132	31920	31920	258	255	255	Japon

a/ Home produced sleepers included.

a/ Y compris la production domestique de traverses.

ANNEX

Table 2

BROADLEAVED SAWNWOOD - SCIAGES FEUILLUS

Country	APPARENT CONSUMPTION - CONSOMMATION APPARENTE						Pays
	Total (1000 m3)			Per capita (m3/1000 capita)			
	1993	1994	1995	1993	1994	1995	
Albania	...	3	3	..	1	1	Albanie
Austria	259	312	308	32	39	38	Autriche
Belgium-Luxembourg	1135	715	678	108	68	65	Belgique-Luxembourg
Bulgaria	53	42	42	6	5	5	Bulgarie
Cyprus	19	24	21	27	33	28	Chypre
Czech Republic	283	314	330	27	30	32	République tchèque
Slovakia	127	201	112	24	38	21	Slovaquie
Denmark	236	247	251	45	48	48	Danemark
Finland	87	61	111	17	12	22	Finlande
France	2842	3182	3688	49	55	64	France
Germany	1498	1566	1562	18	19	19	Allemagne
Greece	135	141	141	13	14	13	Grèce
Hungary	265	290	...	26	28	...	Hongrie
Iceland	4	4	4	15	15	15	Islande
Ireland	72	100	80	20	28	22	Irlande
Israel	17	23	23	3	4	4	Israël
Italy	2486	2669	2748	44	47	48	Italie
Malta	4	8	8	11	22	22	Malte
Netherlands	811	743	722	53	48	47	Pays-Bas
Norway	51	62	68	12	14	15	Norvège
Poland	343	632	870	9	16	23	Pologne
Portugal	269	502	534	27	51	49	Portugal
Romania	1428	572	650	63	25	29	Roumanie
Spain	1133	1074	1260	29	27	32	Espagne
Sweden	249	276	316	28	31	36	Suède
Switzerland	133	140	175	19	20	25	Suisse
Turkey	2080	1707	1827	35	28	30	Turquie
United Kingdom	666	681	609	11	12	10	Royaume-Uni
Other countries	95	167	154	4	7	6	Autres pays
EUROPE	16781	16459	17183	29	29	30	EUROPE
Russian Federation	8055	6017	5093	54	41	34	Fédération de Russie
Canada	1201	1042	1216	41	36	41	Canada
United States	16052	27428	27547	62	105	105	Etats-Unis
NORTH AMERICA	17253	28470	28763	60	98	98	AMERIQUE DU NORD
Japan	4733	4511	4511	38	36	36	Japon

ANNEX

Table 3

PARTICLE BOARD - PANNEAUX DE PARTICULES

APPARENT CONSUMPTION - CONSOMMATION APPARENTE

Country	Total (1000 m3)			Per capita (m3/1000 capita)			Pays
	1993	1994	1995	1993	1994	1995	
Albania	-	2.0	2.0	-	0.6	0.6	Albanie
Austria	848.0	921.0	921.0	106.1	114.7	114.1	Autriche
Belgium-Luxembourg	1154.0	723.0	719.8	110.1	69.0	68.7	Belgique-Luxembourg
Bulgaria	124.0	127.0	127.0	14.6	15.0	15.0	Bulgarie
Cyprus	47.0	41.0	43.0	65.3	56.2	58.1	Chypre
Czech Republic	450.0	400.0	420.0	43.6	38.7	40.7	République tchèque
Slovakia	193.0	212.0	235.0	36.3	39.6	43.8	Slovaquie
Denmark	546.0	602.0	584.0	105.2	115.8	111.7	Danemark
Finland	257.0	289.0	277.0	50.7	56.8	54.2	Finlande
France	2475.8	2361.9	2425.1	42.9	40.8	41.8	France
Germany	8667.0	9032.0	9023.0	106.7	110.9	110.5	Allemagne
Greece	282.0	262.0	262.0	27.2	25.1	25.0	Grèce
Hungary	250.5	312.1	311.5	24.3	30.4	30.5	Hongrie
Iceland	17.0	15.0	15.0	65.4	55.6	55.6	Islande
Ireland	85.0	89.0	96.0	23.9	24.9	26.8	Irlande
Israel	97.0	124.0	124.0	18.4	23.0	23.0	Israël
Italy	2506.0	2427.0	2699.0	43.9	42.4	47.1	Italie
Malta	5.0	12.0	12.0	13.9	33.3	33.3	Malte
Netherlands	560.0	664.0	628.0	36.6	43.2	40.6	Pays-Bas
Norway	144.0	233.3	221.6	33.4	54.0	50.8	Norvège
Poland	1114.0	1400.0	1478.0	29.0	36.3	38.3	Pologne
Portugal	336.0	357.0	449.0	34.0	36.1	41.6	Portugal
Romania	428.0	222.0	249.3	18.8	9.8	11.0	Roumanie
Spain	1680.3	1855.1	1859.5	43.0	47.3	47.4	Espagne
Sweden	627.0	655.0	792.0	71.7	74.5	89.7	Suède
Switzerland	428.0	443.0	441.0	61.7	63.4	62.6	Suisse
Turkey	924.0	929.0	850.0	15.4	15.2	13.8	Turquie
United Kingdom	2827.0	2780.0	2750.0	48.6	47.6	47.0	Royaume-Uni
Other countries	267.0	434.2	397.0	11.2	18.2	16.6	Autres pays
EUROPE	27339.6	27924.6	28411.8	47.9	48.7	49.4	EUROPE
Russian Federation	3910.0	2624.6	2097.0	26.4	17.7	14.2	Fédération de Russie
Canada	1399.9	1277.4	1120.5	48.4	43.7	37.8	Canada
United States	16706.0	17764.0	19191.0	64.7	68.2	73.0	Etats-Unis
NORTH AMERICA	18105.9	19041.4	20311.5	63.1	65.7	69.4	AMERIQUE DU NORD
Japan	1450.0	1564.0	1564.0	11.6	12.5	12.5	Japon

a Including non-wood particle board.

a Y compris les panneaux de particules non-dérivés du bois.

ANNEX

Table 4

PLYWOOD - CONTREPLAQUES

Country	APPARENT CONSUMPTION - CONSOMMATION APPARENTE						Pays
	Total (1000 m3)			Per capita (m3/1000 capita)			
	1993	1994	1995	1993	1994	1995	
Albania	6.0	6.0	6.0	1.8	1.8	1.7	Albanie
Austria	98.0	96.0	96.0	12.3	12.0	11.9	Autriche
Belgium-Luxembourg	417.0	201.0	125.6	39.8	19.2	12.0	Belgique-Luxembourg
Bulgaria	4.0	14.0	14.0	0.5	1.7	1.7	Bulgarie
Cyprus	5.8	10.0	9.0	8.1	13.7	12.2	Chypre
Czech Republic	18.0	36.0	40.0	1.7	3.5	3.9	République tchèque
Slovakia	8.0	16.5	18.1	1.5	3.1	3.4	Slovaquie
Denmark	142.0	145.0	171.0	27.4	27.9	32.7	Danemark
Finland	114.0	91.0	111.0	22.5	17.9	21.7	Finlande
France	549.4	647.5	659.4	9.5	11.2	11.4	France
Germany	1171.0	1269.0	1438.0	14.4	15.6	17.6	Allemagne
Greece	64.0	59.0	59.0	6.2	5.7	5.6	Grèce
Hungary	13.4	7.4	19.0	1.3	0.7	1.9	Hongrie
Iceland	4.0	1.0	1.0	15.4	3.7	3.7	Islande
Ireland	46.1	53.0	67.0	12.9	14.8	18.7	Irlande
Israel	103.0	117.0	117.0	19.6	21.7	21.7	Israël
Italy	552.0	576.0	645.0	9.7	10.1	11.3	Italie
Malta	4.0	8.0	8.0	11.1	22.2	22.2	Malte
Netherlands	528.0	473.0	495.0	34.5	30.8	32.0	Pays-Bas
Norway	59.5	73.5	72.1	13.8	17.0	16.5	Norvège
Poland	94.0	68.0	70.0	2.4	1.8	1.8	Pologne
Portugal	27.0	33.0	32.0	2.7	3.3	3.0	Portugal
Romania	48.0	43.2	26.1	2.1	1.9	1.2	Roumanie
Spain	166.5	178.2	198.9	4.3	4.5	5.1	Espagne
Sweden	133.0	162.0	146.0	15.2	18.4	16.5	Suède
Switzerland	117.4	144.2	136.3	16.9	20.6	19.4	Suisse
Turkey	147.0	132.0	148.0	2.5	2.2	2.4	Turquie
United Kingdom	1149.0	1184.0	1109.0	19.7	20.3	19.0	Royaume-Uni
Other countries	200.0	348.4	175.6	8.4	14.6	7.3	Autres pays
EUROPE	5989.1	6192.9	6213.1	10.5	10.8	10.8	EUROPE
Russian Federation	583.0	327.0	329.0	3.9	2.2	2.2	Fédération de Russie
Canada	1696.0	1611.0	1377.0	58.6	55.1	46.5	Canada
United States	17161.0	17581.0	17514.0	66.5	67.4	66.6	Etats-Unis
NORTH AMERICA	18857.0	19192.0	18891.0	65.7	66.2	64.6	AMERIQUE DU NORD
Japan	9338.0	8901.0	8901.0	74.9	71.2	71.1	Japon

ANNEX

Table 5

FIBREBOARD - PANNEAUX DE FIBRES

APPARENT CONSUMPTION - CONSOMMATION APPARENTE

Country	Total (1000 m3)			Per capita (m3/1000 capita)			Pays
	1993	1994	1995	1993	1994	1995	
Austria	92.0	92.0	92.0	11.5	11.5	11.4	Autriche
Belgium-Luxembourg	102.6	168.6	159.3	9.8	16.1	15.2	Belgique-Luxembourg
Bulgaria	54.0	61.0	61.0	6.4	7.2	7.2	Bulgarie
Cyprus	29.0	32.4	29.5	40.3	44.4	39.9	Chypre
Czech Republic	72.0	52.0	57.0	7.0	5.0	5.5	République tchèque
Slovakia	26.0	41.1	41.7	4.9	7.7	7.8	Slovaquie
Denmark	75.0	101.0	106.0	14.5	19.4	20.3	Danemark
Finland	93.0	89.0	94.0	18.3	17.5	18.4	Finlande
France	285.1	347.5	364.0	4.9	6.0	6.3	France
Germany	802.0	937.0	938.0	9.9	11.5	11.5	Allemagne
Greece	104.0	127.0	127.0	10.0	12.2	12.1	Grèce
Hungary	44.4	19.1	34.4	4.3	1.9	3.4	Hongrie
Iceland	4.0	5.0	5.0	15.4	18.5	18.5	Islande
Ireland	84.2	101.5	143.5	23.7	28.4	40.1	Irlande
Israel	99.0	98.0	98.0	18.8	18.1	18.1	Israël
Italy	100.0	24.0	828.0	1.8	0.4	14.5	Italie
Malta	12.0	16.0	16.0	33.3	44.4	44.4	Malte
Netherlands	199.0	219.0	238.0	13.0	14.2	15.4	Pays-Bas
Norway	188.3	199.6	212.6	43.7	46.2	48.8	Norvège
Poland	355.0	324.0	325.0	9.2	8.4	8.4	Pologne
Portugal	94.0	103.0	136.0	9.5	10.4	12.6	Portugal
Romania	235.0	64.4	40.9	10.3	2.8	1.8	Roumanie
Spain	289.8	402.2	483.8	7.4	10.3	12.3	Espagne
Sweden	148.0	122.0	146.0	16.9	13.9	16.5	Suède
Switzerland	139.9	162.4	169.4	20.2	23.2	24.1	Suisse
Turkey	110.0	123.0	134.0	1.8	2.0	2.2	Turquie
United Kingdom	607.4	613.0	621.0	10.4	10.5	10.6	Royaume-Uni
Other countries	18.0	21.3	22.5	0.8	0.9	0.9	Autres pays
EUROPE	4462.7	4666.1	5723.6	7.8	8.1	9.9	EUROPE
Russian Federation	1082.0	676.0	611.0	7.3	4.6	4.1	Fédération de Russie
Canada	683.4	631.0	522.0	23.6	21.6	17.6	Canada
United States	4969.0	5276.0	5533.0	19.2	20.2	21.0	Etats-Unis
NORTH AMERICA	5652.4	5907.0	6055.0	19.7	20.4	20.7	AMERIQUE DU NORD
Japan	1374.0	1551.0	1551.0	11.0	12.4	12.4	Japon

ANNEX

Table 6

HARDBOARD - PANNEAUX DURS

Country	APPARENT CONSUMPTION - CONSOMMATION APPARENTE						Pays
	Total (1000 m3)			Per capita (m3/1000 capita)			
	1993	1994	1995	1993	1994	1995	
Austria	75.0	75.0	75.0	9.4	9.3	9.3	Autriche
Belgium-Luxembourg	92.0	149.0	149.7	8.8	14.2	14.3	Belgique-Luxembourg
Bulgaria	53.0	54.0	54.0	6.3	6.4	6.4	Bulgarie
Cyprus	27.0	30.0	28.0	37.5	41.1	37.8	Chypre
Czech Republic	76.0	52.0	57.0	7.4	5.0	5.5	République tchèque
Slovakia	28.0	13.1	10.7	5.3	2.4	2.0	Slovaquie
Denmark	70.0	100.0	103.0	13.5	19.2	19.7	Danemark
Finland	37.0	44.0	52.0	7.3	8.6	10.2	Finlande
France	238.1	344.5	345.0	4.1	5.9	5.9	France
Germany	684.0	784.0	820.0	8.4	9.6	10.0	Allemagne
Greece	103.0	122.0	122.0	9.9	11.7	11.6	Grèce
Hungary	43.4	19.1	34.4	4.2	1.9	3.4	Hongrie
Iceland	2.0	3.0	3.0	7.7	11.1	11.1	Islande
Ireland	64.0	84.0	113.0	18.0	23.5	31.6	Irlande
Israel	80.0	76.0	76.0	15.2	14.1	14.1	Israël
Italy	62.0	22.0	765.0	1.1	0.4	13.4	Italie
Malta	12.0	12.0	12.0	33.3	33.3	33.3	Malte
Netherlands	122.0	145.0	167.0	8.0	9.4	10.8	Pays-Bas
Norway	37.4	42.8	52.6	8.7	9.9	12.1	Norvège
Poland	209.0	222.0	205.0	5.4	5.8	5.3	Pologne
Portugal	90.0	99.0	132.0	9.1	10.0	12.2	Portugal
Romania	91.0	63.6	38.8	4.0	2.8	1.7	Roumanie
Spain	293.4	408.0	485.0	7.5	10.4	12.4	Espagne
Sweden	117.0	111.0	147.0	13.4	12.6	16.6	Suède
Switzerland	98.5	138.8	124.8	14.2	19.9	17.7	Suisse
Turkey	108.0	123.0	134.0	1.8	2.0	2.2	Turquie
United Kingdom	503.4	576.0	591.0	8.7	9.9	10.1	Royaume-Uni
Other countries	11.0	7.5	8.4	0.5	0.3	0.4	Autres pays
EUROPE	3427.2	3920.4	4905.4	6.0	6.8	8.5	EUROPE
Russian Federation	1021.0	656.4	583.0	6.9	4.4	3.9	Fédération de Russie
Canada	307.4	235.0	184.0	10.6	8.0	6.2	Canada
United States	3383.0	3623.0	3841.0	13.1	13.9	14.6	Etats-Unis
NORTH AMERICA	3690.4	3858.0	4025.0	12.9	13.3	13.8	AMERIQUE DU NORD
Japan	743.0	908.0	908.0	6.0	7.3	7.2	Japon

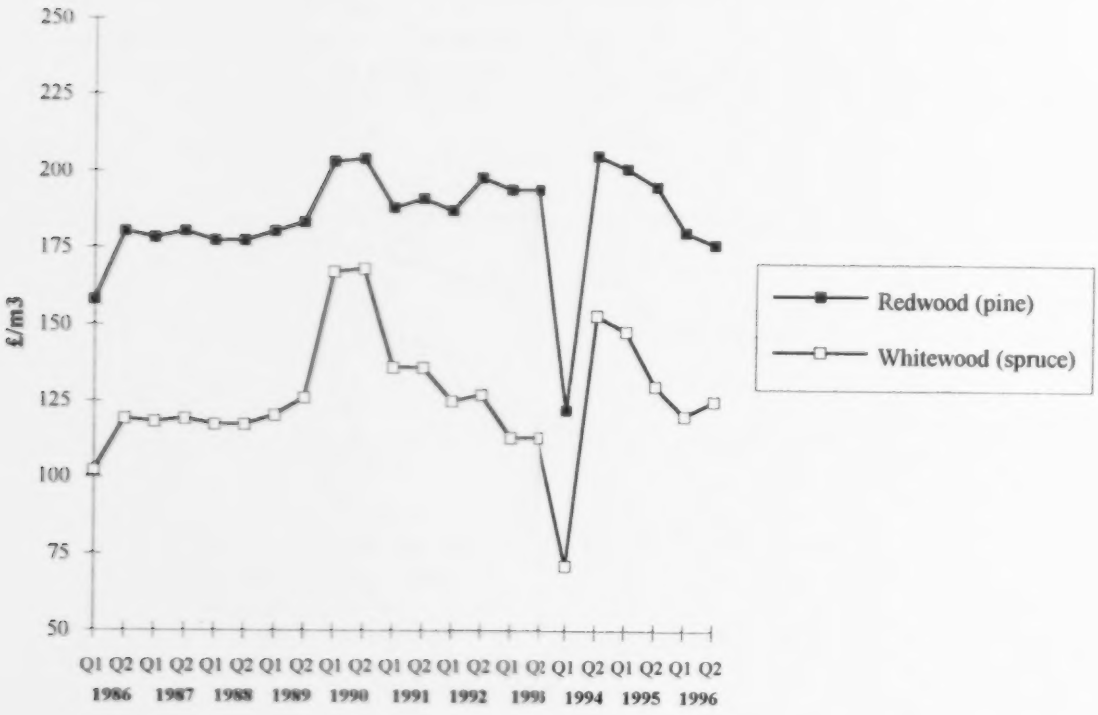
ANNEX

Table 7

Former USSR/Russian Federation base prices for unsorted coniferous sawnwood to the United Kingdom, 1986 to 1996 (£/m³, c.i.f.)

		Redwood (pine)	Whitewood (spruce)
1986	January	158	102
	May	180	119
1987	January	178	118
	May	180	119
1988	January	177	117
	May	177	117
1989	January	180	120
	May	183	126
1990	January	203	167
	May	204	168
1991	March	188	136
	May	191	136
1992	March	187	125
	May	198	127
1993	March	194	113
	May	194	113
1994	March	122	71
	May	205	153
1995	March	201	148
	May	195	130
1996	March	180	120
	May	176	125
% change			
May 1995 to May 1996		-9.7	-3.8

Source: *Softwood Market Report*, Churchill & Sim Forest Products Group Ltd, 1996



ANNEX

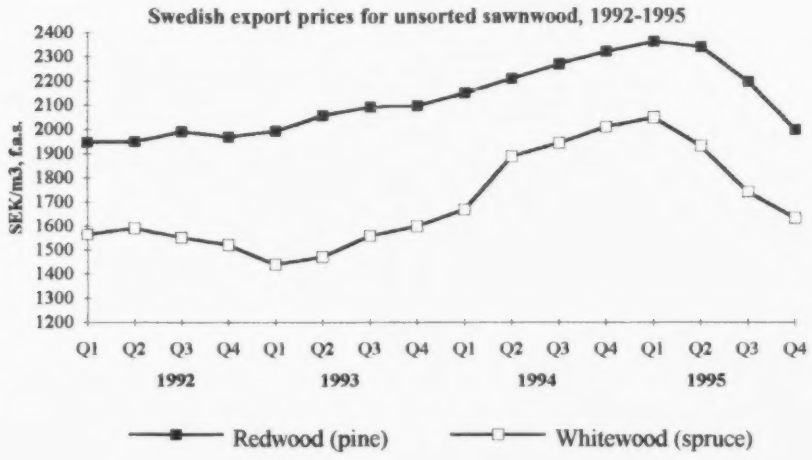
Table 8

Swedish coniferous sawnwood export prices, 1987 to 1995

(Swedish krona/m³, f.a.s.)

		Redwood (pine)		Whitewood (spruce)	
Year	**Month**	**Unsorted**	**Fifths**	**Unsorted**	**Fifths**
1987		1,715	1,245	1,300	1,070
1988		1,830	1,335	1,365	1,115
1989		1,895	1,507	1,390	1,140
1990		2,027	1,747	1,710	1,470
1991		2,001	1,732	1,683	1,380
1992	January	1,946	1,425	1,565	1,080
	April	1,948	1,388	1,589	1,073
	July	1,987	1,353	1,549	1,087
	October	1,967	1,287	1,518	1,056
1993	January	1,991	1,345	1,439	1,060
	April	2,054	1,404	1,468	1,180
	July	2,089	1,440	1,557	1,242
	October	2,095	1,480	1,598	1,359
1994	January	2,147	1,557	1,667	1,433
	April	2,207	1,653	1,885	1,661
	July	2,267	1,831	1,941	1,795
	October	2,316	1,902	2,007	1,795
1995	January	2,357	1,959	2,046	1,737
	April	2,335	1,877	1,929	1,564
	July	2,193	1,774	1,738	1,321
	October	1,996	1,581	1,630	1,240
Percentage change from October 1994 to October 1995		-13.8	-16.9	-18.8	-30.9

Source: Allman manadsstatistik (Monthly digest of Swedish Statistics), 1996:6, Sveriges officiella statistik, Statistiska centralbyran 1996 (Official Statistics of Sweden, Statistics Sweden 1996).



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The Timber Committee is a principal subsidiary body of the ECE (UN Economic Commission for Europe) based in Geneva. It constitutes a forum for cooperation and consultation between member countries on forestry, forest industry and forest product matters. All countries of Europe; the former USSR; United States of America, Canada and Israel are members of the ECE and participate in its work.

The ECE Timber Committee shall, within the context of sustainable development, provide member countries with the information and services needed for policy- and decision-making regarding their forest and forest industry sector ("the sector"), including the trade and use of forest products and, when appropriate, formulate recommendations addressed to member Governments and interested organizations. To this end, it shall:

1. With the active participation of member countries, undertake short-, medium- and long-term analyses of developments in, and having an impact on, the sector, including those offering possibilities for the facilitation of international trade and for enhancing the protection of the environment;

2. In support of these analyses, collect, store and disseminate statistics relating to the sector, and carry out activities to improve their quality and comparability;

3. Provide the framework for cooperation e.g. by organizing seminars, workshops and *ad hoc* meetings and setting up time-limited *ad hoc* groups, for the exchange of economic, environmental and technical information between governments and other institutions of member countries that is needed for the development and implementation of policies leading to the sustainable development of the sector and to the protection of the environment in their respective countries;

4. Carry out tasks identified by the UN-ECE or the Timber Committee as being of priority, including the facilitation of subregional cooperation and activities in support of the economies in transition of central and eastern Europe and of the countries of the region that are developing from an economic point of view;

5. It should also keep under review its structure and priorities and cooperate with other international and intergovernmental organizations active in the sector, and in particular with the FAO (Food and Agriculture Organization of the United Nations) and its European Forestry Commission and with the ILO (International Labour Office), in order to ensure complimentarily and to avoid duplication, thereby optimizing the use of resources.

More information about the Committee's work may be obtained by writing to:

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UN-ECE Trade Division
Palais des Nations
CH-1211 Geneva 10, Switzerland
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